

Best Practices for Inclusive Dairy Business Development in East Africa

White paper on inclusive
practices of dairy producer
organizations and processors



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Best Practices for Inclusive Dairy Business Development in East Africa
White Paper

Authors

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This white paper describes inclusive practices of dairy producer organizations and processors to include smallholders, women and youth in their business model. The inclusiveness is assessed along various dimensions of the business model, focused on the supply side. The best practices and challenges related to inclusive business development provide insight on the opportunities to accelerate sustainable, healthy and inclusive dairy sector transformation to meet the growing demand for milk in East Africa. Dutch dairy support programmes introduced several interventions with and for producer organizations and processors that contributed to developing, piloting and strengthening inclusive practices. The study provides recommendations for inclusive business development and the underlying support interventions based on best practices that show potential. This is an output of Theme 3: “Inclusive Business Models” of the Netherlands East African Dairy Partnership project (NEADAP). NEADAP is an initiative led by the Netherlands Government aimed at learning and sharing amongst different dairy sectors and projects in East Africa.

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Abbreviations

AGM	Annual General Meeting
AI	Artificial Insemination
B2B	Business to Business
BAMSCOS	Baringo Agricultural Marketing Services PO Society
DairyBISS	Dairy Business Information Supply and Support
DFEGs	Dairy Farmer Extension Groups
DFCS	Dairy Farmer Co-operative Society
DPU	Dairy Processing Units
EDGET	Enhancing Dairy sector Growth in Ethiopia
IBM	Inclusive Business Model
ISP	Input and Service Provision
KMDP	Kenya Market-led Dairy Programme
MCCs	Milk Collection Centres
MCDFCU	Meru Central Dairy Farmers Co-operative Union Ltd
MoU	Memorandum of Understanding
NBM principles	New Business Model Principles
PDTC	Practical Dairy Training Centre
PO	Producer Organization
QBMPS	Quality Based Milk Payment System
SACCOS	Saving and Credit Cooperative Society
SNV	SNV Netherlands Development Organization
SPE	Service Provider Enterprise
TIDE	The Inclusive Dairy Enterprise
T&E	Training and extension
ToT	Training of Trainers
UNDP	United Nations Development Programme
WCDI	Wageningen UR Centre for Development Innovation
Wageningen UR	Wageningen University & Research

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Introduction

With the increase in demand for milk and dairy products in the coming decade, both in quantity and quality, dairy offers very good prospects for both entrepreneurial smallholders as well as for medium and large-scale farmers in developing countries. At this moment, but also in the coming years, smallholders will produce the bulk of the milk. Sustained 'fair' inclusion of commercial smallholders in the growing formal dairy sector will only be possible if they meet volume and quality requirements, through well-organized bulking and chilling activities and further improvement of productivity and seasonal stability. This implies that more work needs to be done on the development and realization of inclusive business models, either by farmer organizations, progressive processors, other value chain actors, or blends of these.

The dairy sector in East Africa can reach sustainable growth through the adoption of inclusive business models (Makoni et al., 2014). Innovative approaches to dairy sector development are emerging where inclusive business models are coupled with demand-driven, market-led support systems and public-private partnerships (Rademaker et al., 2017).

This white paper aims to share lessons learned on best inclusive business practices of producer organizations (POs) and processors (private sector or PO-led) in the East African dairy sector that increase the inclusiveness of their business model. Special attention is given to the inclusion of smallholders, women and youth as they play an important role in the sector but are often overlooked and underrepresented in dairy innovations. The contribution of support interventions, implemented by a selection of Dutch dairy development organizations, to inclusive business development found in the three focus countries of this study, i.e., Kenya, Uganda and Ethiopia, are analysed. Based on the analysis, recommendations to strengthen, scale and replicate inclusive business models of POs and processors in the dairy sector are formulated.

1. Quick scan methodology

Problem statement

This paper addresses several main questions related to the development of inclusive dairy business models: what are best inclusive business practices of dairy POs and processors in East Africa to improve the inclusiveness of their business model; what is the contribution of various Dutch development organizations engaged in dairy initiatives to this; and what are the recommendations to strengthen, replicate and scale these practices?

The majority of the milk in Kenya, Uganda and Ethiopia is produced by smallholders ($\geq 80\%$) and collected by the informal sector actors (70-98%) (Makoni et al., 2014). The milk collection and bulking from these suppliers is mainly done by farmer-owned and -managed organizations, often referred to as Producer Organizations (POs) (Makoni et al., 2014; Verjans, 2014; Rademaker et al., 2016). The POs play an important role in dairy development for smallholders.

The business model of POs is often perceived as inclusive by nature, due to their democratic and social principles, and the fact that smallholders in most cases compose the majority of the members. However, the level of inclusiveness should be assessed along various dimensions of the business model and for multiple target groups.

For instance, about 70% of the smallholder dairy farmers labour force are women (Makoni et al., 2014), although in many countries the ownership of land and animals is not with them. This prevents them in most cases to be included in decision-making processes and governance structures (Katothya, 2017). Also, youth are often not the owners of assets yet, hence their representation and participation in the dairy sector is low. In general, youth are less interested in practising agriculture themselves, but are more attracted to service provision such as milk transportation by motorbike, milk vendor jobs, silage production and fencing and paddocking.

There is still a lot of room for improvement on the inclusion of these groups in the dairy sector (Makoni et al., 2014). Key obstacles for women and youth to become more visible and formally involved are: lack of access to assets; time constraints due to their various roles; cultural stereotypes and lack of skills, experience and opportunities (Agriterra, 2019). Also, smallholders face constraints such as access to inputs, credit, extension and markets. Therefore, specific attention is needed on how to structurally include smallholders, women and youth to have strong and well managed dairy businesses.

Next to POs, PO-led and private processors play an important role in shaping the dairy industry and investing in the supply chain (Rademaker et al., 2016). They mostly rely on the supply from smallholders through POs and on larger farmers. They often face limited and unstable milk volumes of varying quality (Molenaar & Blackmore, 2019). Therefore, they benefit from developments within POs to improve milk production and are increasingly willing to contribute to shared value creation by adopting inclusive business models.

Thus, as inclusive business models are critical to achieve dairy sector growth and competitiveness (Rademaker et al., 2016), the key challenge is to identify which practices and dairy support interventions lead to effective and sustainable inclusive business models for POs and processors. This study explores examples of best inclusive business practices and the related challenges to extract lessons for further improvement and acceleration of the development of inclusive business models in the East African dairy sector.

Inclusive business models – some definitions

In the literature, various definitions are used for inclusive business models. Common themes among the different definitions are the fact that these business models benefit poor or disadvantaged groups and are economically viable (Gradl et al., 2010). Within agricultural value chains it generally promotes the integration of smallholders into markets with mutual benefits for the poor producers and businesses (Kelly et al., 2015).

In this paper we use the following adapted definition from UNDP (2008): ***An inclusive business model is a commercially viable model that creates benefits for low-income smallholders by including them in a company's value chain on the supply side as producers in a sustainable way.***

'Inclusiveness' refers especially to the quality of inclusion of the less-advantaged groups, being smallholders, women and youth. Specifically, the small commercially viable dairy producers that are members of formally registered farmer-owned producer organizations (being groups, POs, unions etc) are considered. 'Benefits' are considered results that contribute to livelihood improvement and empowerment of these target groups by addressing the major challenges of access to inputs, markets, extension and credit.

The business models of selected dairy POs (bulking, chilling and selling the milk) and processors (both PO-led and private) that received support from the Dutch dairy development programmes are studied. In principle each enterprise – large or small, informal or formal – has a unique business model that defines the way of doing business including marketing and sourcing activities (Kelly et al., 2015). Based on some general characteristics, the business models of dairy POs and processors in Kenya and Uganda are categorized to assign best inclusive business practices to either PO- or processor-led business models (Annex 1).

Quick scan approach

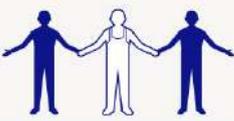
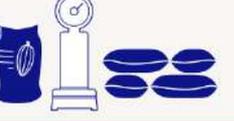
This quick scan applied the New Business Model (NBM) principles from the LINK methodology (CIAT, 2012) to explore the quality of inclusion of the business models of the POs and processors. These guiding principles are an effective tool to assess the inclusivity of a business model and to evaluate to what extent a buyer-supplier relationship is inclusive of smallholders. The methodology includes six NBM principles: 1) Chain-wide collaboration, 2) Fair and transparent governance, 3) Effective market linkages, 4) Equitable access to services, 5) Inclusive innovation, and 6) Measurement of outcomes. The last principle ‘Measurement of outcomes’ is excluded from the research as such practices are almost non-existent among the organizations studied.

Often, one of the value chain actors is leading inclusive development. The organization establishing or leading the support system for Input and Service Provision (ISP), equal to the fourth NBM principle of ‘equitable access to services’, is considered the lead. Among the dairy stakeholders targeted by the support interventions from the Dutch development initiatives: KMDP I and II in Kenya, TIDE in Uganda, EDGET and DairyBISS in Ethiopia and Agriterra in all three countries (see Annex 2), POs and processors are identified as dominant IBM lead organizations. The NBM principles were used in a pre-assessment to identify the best performing organizations of these two categories within the project interventions in Kenya and Uganda. From the selected cases more field data was collected through structured interviews (Annex 3). The findings were further enriched through a literature review, return visits to selected case studies (Annex 4) and expert interviews. Ethiopia is included through a literature review due to time and resource constraints.

The inclusive aspects of the business model of each organization, were reviewed based on the five NBM principles and linked to the interventions from the dairy support programmes, to assess their contribution to inclusive business development. **Table 1** summarizes the NBM principles with the definition from the LINK methodology and research indicators. The latter were added to specify which type of existing and meaningful practices can be considered an indicator of each principle. This helped in collecting comparable data and information.

The NBM principles help to assess inclusiveness along different dimensions and identify opportunities to further strengthen the inclusivity of a business model. Lessons are extracted from the most promising examples, referred to as best inclusive business practices. Based on the findings, recommendations to promote further strengthening, replication and scaling of inclusive practices are formulated. Also, suggestions for the design of effective dairy support interventions that stimulate inclusive business model development are provided. Special attention was given to the support interventions that aim to improve the position of smallholders, women and youth within the POs and processors.

Table 1: Inclusive business principles as defined by the LINK methodology

NBM Principle	Definition	Research Indicator
 <p>1. CHAIN-WIDE COLLABORATION</p>	<p>Actors in the chain need to establish shared goals for collaboration, recognize and value the interdependence of the actors. Reaching and implementing agreements often involve identifying champions who will lead the process.</p>	<p>Communication and partnerships No. of members attending general meetings, communication channels involving farmers, strategic partnerships.</p>
 <p>2. FAIR AND TRANSPARENT GOVERNANCE</p>	<p>Establishment of and implementation of clear and consistent quality standards, clear commitments to buy and sell certain volumes of certain grade products at certain times, and equitable processes of risk management. Shared commercial risk and insurance against failure are frequently cited as the cement of successful relationships.</p>	<p>Presence of quality criteria Starting from hygienic handling, grading and simple tests to more advanced QBMPS, traceability system.</p>
 <p>3. EFFECTIVE MARKET LINKAGES</p>	<p>Farmers and their organizations need to be linked to a stable market that not only provides them with access to key services, but also has clear signposting in terms of quality standards, volume and price. These linkages should contribute to improved livelihoods for the producers. For buyers, the linkage must provide consistent supply of safe, quality products at competitive prices.</p>	<p>Nr. of contracted / linked: - buyers - producers</p>
 <p>4. EQUITABLE ACCESS TO SERVICES</p>	<p>Successful solutions enable smallholders to access credit, knowledge, technology, and develop incentives that encourage producers to invest in their own production based on market needs.</p>	<p>Nr of in-house services nr of members using services, nr of farmers attending trainings, field days, nr of farmers per extension officer, budget for T&E services growth in these aspects (if possible, indicate per target group, men, women, youth).</p>
 <p>5. INCLUSIVE INNOVATION</p>	<p>Innovations should be developed with smallholder farmers rather than for them. Inclusive innovation development provides the means to remain competitive in the markets; to improve the commercial value for goods and services; and for innovation gains to be shared among partners, all of which build business durability.</p>	<p>Integration of value addition processes (nr of value addition processes, i.e., chilling, pasteurizing, homogenising, UHT milk, yoghurt processing).</p>

Adapted from CIAT, 2012. LINK methodology; Monika Sopov, Wageningen Centre for Development Innovation, Wageningen UR and Roger Reuver, Reuver+Co Communication Design, collaborating to boost sustainable cocoa production in Indonesia.

2. Inclusive dairy business practices and support interventions

2.1 Position of commercial smallholders, women and youth

Several factors determine to what extent smallholders, women and youth are equally included in POs. These are among others: membership criteria; internal power distributions including voting rights; and cultural norms and values. Only if the organizational governance structures and culture sufficiently include these groups, the inclusiveness of the business model can be effectively addressed.

Women and youth

Across the visited POs the role of women and (potential) role of youth in dairy is recognized as very important. The efforts of KMDP, TIDE, EDGET and Agriterra on gender awareness creation, encouraging female and youth leadership and promoting youth employment and entrepreneurship contributed to this. Best inclusive business practices are: easing membership conditions and adjustment of by-laws to encourage women and youth to become a member of the PO (dual-membership permission); increasing the ratio of female staff and board members; establishment of a youth council to strengthen the representation of these groups; and selecting and awarding the top performing female dairy farmers (see box 1). It is especially difficult for women and youth to achieve economic and/or business independence. A good example to improve this, is facilitating dual membership and separate accounts to receive milk payments (Kithinji et al., 2016).

Box 1: Women and youth in Mumberes

Mumberes dairy PO in Kenya received female leadership training from Agriterra. The PO has a gender-mixed board including two women and a female supervisor. Furthermore, there are female lead farmers, awards for the top three performing female farmers and specific trainings for women. The attention for women attracted new members (currently 50% of the members are female). The PO recently introduced the concept of allocating afternoon milk supplies to the wife which allows women to have their own account and manage the income. Underlining the importance of succession planning in POs and creating an own space for youth in the PO, Agriterra runs a youth empowerment programme at Mumberes. This has led to three youth in the board, establishment of a youth council (81 members with 9 board members) and reactivation of youth in the dairy sector (currently 60% of the members are youth), often with good performance (see Annex 4).

Despite the increase in membership and leadership positions, broader organizational and cultural change for equal inclusion of women and youth remains limited. In most cases, these groups do not receive additional support to overcome the challenges for stronger inclusion and equal membership positions. For instance, in some POs women and youth have been part of the board for several years but are still not perceived as independent. Most respondents therefore acknowledge the need for improved: sensitisation, women and youth involvement, leadership skills, adaptation of conservative cultural values and attitudes and revision of traditional role divisions to promote further inclusion of these groups.

The visited processors employ many woman and youths that are considered strong in performing finance, store management, packaging and sorting jobs. However, often the majority of the management and decision-making positions are still taken by men.

While all dairy development programmes were sensitive to the inclusion of women and/or youth, either formulated as specific outcome target or more implicitly, the results were limited according to the gender assessments and project evaluations. Household level gender dynamics and norms and lack of a targeted approach or strategy are mentioned as the key challenges to effectively include women and youth in the support interventions (Molenaar & Blackmore, 2019; Roefs & Reynell, 2018; ALINe, 2018).

Smallholders

As generally the majority of the PO members are smallholders, there is little attention for the position or specific needs of this group within the management and board of the PO. However, similar to the concerns for women and youth, POs need to establish accessible and equitable membership conditions for smallholders and ensure a fair representation among the decision-making bodies. Especially in light of member base transitions, with growing segments of better educated, stronger commercial farmers such as in Kenya, this becomes more urgent (Rademaker et al., 2016).

In the design of Dutch dairy support interventions, the impact of the outcomes on different target groups is specified to different extents. For instance, KMDP-II aimed to address both 'small-scale farms' as well as 'medium and large-scale farms' (Molenaar & Blackmore, 2019). EDGET targets 'smallholders', while TIDE uses the general term 'farmers' (ALINE, 2018; SNV, 2019). An exact definition of these terms in number of cows or litres of milk produced per day, is not always provided while the ranges differ between countries.

It is observed that both TIDE and KMDP-II have reached more medium and large farmers and less smallholders (Addink et al, 2019; Rademaker et al., 2016). The inclusivity aspect of TIDE refers more to including all chain actors, but does not necessarily lead to inclusion of smallholders, women and youth. In KMDP the assumption is, that by working with POs, that supply to processors, smallholders are reached (Molenaar & Blackmore, 2019). This is a common strategy among support interventions but tends to reach mostly the larger and more productive members within the PO. One of the reasons, is the selection of (lead) farmers that are: more innovative and open for change; face conducive conditions to benefit from the interventions; or are able to meet the requirements to be considered for support, which are generally the relatively larger member farmers (Katothya & van der Lee, 2016; Molenaar & Blackmore, 2019; Meenink & Mwangi, 2018).

Processors, that from a business perspective aim to achieve large gains with relatively less efforts, used to mainly focus on larger farmers who buy more inputs and services and supply larger milk volumes. However, to access the milk quantities that are needed, the willingness to invest in the inclusion of smallholders within the business model increases (Rademaker et al., 2016). The concern raised above, that smallholders might not be sufficiently reached through POs, should be taken into consideration for processor-led business models as well. The same applies for the assumption that PO-led processors have sufficient eye for smallholders solely based on their membership structures.

2.2 NBM principles

2.2.1 Chain-wide collaboration

Chain-wide collaboration refers to acknowledging the interdependency and formulating shared goals between chain actors. Inclusive communication channels between producers, POs and processors stimulate discussion and mutual understanding for stronger collaboration.

Communication and decision-making processes

Producer organizations communicate to members regularly through board meetings, the annual general meeting (AGM), and informal contact moments such as discussions, telephone calls, SMS, etc. The processors use phone, letters and emails to communicate with suppliers, often via delegates of the PO. Also, lead farmers or extension officers' function as an effective communication channel between individual farmers, POs and processors. Processors often participate in mass meetings with farmers (in close cooperation with government, input suppliers and POs) to spread their info to a wide audience and at the same time gather information from farmers.

PO members indicate that they would like to be more involved through specific meetings. In turn, POs complain about the one-way communication with processors. The market power of different value chain actors impacts the inclusive nature of communication and collaboration processes.

Shared values and membership loyalty

The payment of better milk prices by POs and processors and dividends by POs to members, are considered the main representations of having shared goals by the respondents of this study. Farmers acknowledge they experience various benefits - through services related to access to input, markets, extension, and credit - from being a member, that contributes to production and/or income improvement. This strengthens member loyalty and supply chain stability.

The interventions of all development partners to strengthen the PO in their governance and financial and business management, have contributed to stronger performance and better adherence to PO principles. This resulted in improved transparency which has often led to membership growth and increased membership engagement. It is noted that loyalty of members continues to fluctuate and is affected by a mix of several internal and external factors. The milk price paid by cooperatives in comparison to other buyers being the most important factor (calculative member commitment). The quality of service provision is another critical factor, see 'equitable access to services', that determines member loyalty.

Box 2: PO leadership

The capacity building support offered to POs often results in a more critical membership (now aware of issues and situations, and with stronger loyalty) and more sophisticated management (e.g. digitalisation). This may discourage the 'old guard', who in a number of instances have paved the way for new leadership, often younger, better educated and more dynamic candidates (SNV, 2019).

Partnerships: formal and informal

Another indicator for chain wide collaboration are the establishment of strategic informal and formal partnerships with other stakeholders such as input and service providers, financial institutions, universities and research, government authorities, NGOs and sector associations. For instance, POs and input providers often work together, although not always based on clear agreements and contracts. Best inclusive business practices are the ones where the PO facilitates linkages between service providers and members; negotiates a contract or MoU with favourable conditions; and manages the payment processes including credit facilities. Compared to inhouse services offered by POs (see equitable access to services), outsourced services are in most cases found to be expensive and therefore valued less by farmers, especially smallholders.

A chain wide approach as used by KMDP-II and TIDE has its advantages, as discussions and interventions take place at multiple levels. Round tables and open discussions between the different actors help to identify shared goals and opportunities to collectively reap more benefits from the support interventions. Specific interventions from the Dutch dairy development organizations to promote collaboration in working towards the shared goals of milk quality and production improvement are captured under the principles 'fair and transparent governance' and 'equitable access to services'. In some cases, these activities are formalized in partnership agreements.

2.2.2 Fair and transparent governance

Milk quality

Within the principle of 'fair and transparent governance' the focus is on establishing clear and consistent milk quality criteria. To set and reach realistic milk quality standards among dairy producers, POs and processors, access to knowledge and equipment and effective transparent reward systems are needed. This topic is extensively addressed in the white paper of the Milk quality theme, thus we only highlight some examples of quality improvement initiatives from the Dutch dairy support programmes and considerations related to the sustainability of the business model for quality-based milk payments.

On the PO level, a start was made by the support interventions (KMDP-I and II, TIDE, EDGET) through providing training and advice on developing milk quality policies and operational procedures; training on hygienic milk handling, training of milk collectors and graders; support the purchase of aluminium cans and simple milk quality tests nearer to the farm (Rademaker et al., 2016; ALINe, 2018). In terms of rewards, rather than paying a price premium for good quality milk, in most cases poor quality milk is rejected, and members are penalized for manipulating milk densities.

QBMPs

At processor level, more advanced milk quality tracking and tracing systems have been piloted, followed by a Quality Based Milk Payment System (QBMPs) (Rademaker et al., 2016). KMDP-II supported private processor Happy Cow in Kenya to pilot this with two POs. The most important interventions consisted of training farmers, collectors and graders and establishing an infrastructure for milk testing, including mini labs at the PO level. The focus on milk quality improvement helped the PO with attracting higher demand for their milk, selling larger milk volumes and negotiating slightly higher milk prices (Molenaar & Blackmore, 2019). While the pilot results indicate that farmer income improves, the additional costs for the PO and processor still outweigh the benefits, due to several factors including unfavourable market, sector and policy conditions (Ndambi et al., 2019). Especially, without donor support it is difficult for the PO to continue to invest in quality tests and extension officers that follow up milk rejections with farmers, which is critical to prevent that they will revert to old practises (Molenaar & Blackmore, 2019).

In Uganda, the TIDE project also introduced a standardized QBMPs with private processors Pearl, Lake Side and Sanatos Food and several supplying POs such as Abesigana. The POs received support in making quality improvements, mostly on a subsidy basis initially (Roefs & Reynell, 2018). The bonus for high quality milk (10% price premium) is paid to the PO but not reaching the individual farmer. This practice will not encourage farmers to be serious in producing quality milk (Addink et al., 2019). A new strategy is now adopted by processor Pearl to pay 50% of the milk premium to the PO and 50% to the farmer for which a reliable and transparent individual milk quantity and quality registration system at the PO is needed (Roefs & Reynell, 2018; personal communication Martin de Jong, 2019).

In both cases, the question is how sustainable the QBMPS is. If the better price for higher quality milk does not cover or does not reach those that make the investments it will not sustain. Therefore, it remains a challenge to develop a sustainable business model to implement a QBMPS in the first place, let alone one that ensures the inclusion of smallholders, women and youth.

2.2.3 Effective market linkages

Farmers' access to markets

The original purpose of most POs is joint marketing. Member farmers declare that they in principle deliver their milk to the PO. These trading relationships contribute to livelihood improvement mainly by providing a stable market linkage. To what extent this is a guaranteed and stable market, mostly depends on price fluctuations and the working capital position of the PO. To improve the latter, KMDP tried to facilitate access to finance for POs (Rademaker et al., 2016).

Box 3: Member testimony Naari PO

"As a shareholder, I supply my milk to the PO that ensures me of a guaranteed payment, access to services, loans, school fees and trainings" (see Annex 4).

To make the marketing channel accessible to all members, including smallholders, women and youth, specific interventions might be required, such as establishing an effective collection and transportation system. One example of a market linkage intervention targeting smallholders, is EDGET's support to POs on the management of dairy processing units (DPUs). DPUs receive milk deliveries from a network of farmer-managed milk collection centres (MCCs) for processing and marketing purposes (Atnaf, 2017). Through the establishment of MCCs, remote farmer groups comprising mostly of smallholders, are linked to a new marketing channel by enabling them to deliver qualitative milk to POs (Adugna, 2018). Also, the other Dutch dairy support interventions contributed to improved milk collection and transportation solutions through subsidized investments in equipment such as milk coolers and means of transport such as milk trucks and motorbikes (Roefs & Reynell, 2018; Adugna, 2018).

Box 4: New marketing linkages for smallholders

Abesigana dairy PO in Uganda faced the problem that the milk trucks weren't able to reach smallholders and thus often the milk wasn't cooled on time, having a big influence on the volume of usable milk. The PO bought motorcycles with the support of TIDE to realize the idea of the youth to venture in milk transportation. Members of the youth group are engaged in milk collection. These transporters make arrangements with individual farmers to collect their milk at a fee agreed upon based on the number of litres and distance covered (see Annex 4).

Supply contracts are usually non-existent between POs and members, hence leaving room for side selling. Members sell to others because of price fluctuations and urgent liquidity needs. Alternative channels are attractive as they may offer slightly higher prices, accept evening milk and provide direct payments which enables farmers to cover daily expenditures. The need of cash results in informal trading, threatening the effectiveness of POs, that usually invest in their members that may not be loyal. Supply consistency remains a key challenge for many POs depending on member loyalty and productivity. A good practice in response to the cash needs of members, is the provision of advance payments and other loan facilities by POs.

Trading relationships of POs and processors

POs establish trading relationships or strategic alliances with buyers, mainly processors and in some cases through PO-led unions that are engaged in milk bulking and marketing. These linkages are relatively stable but depend on milk prices that are impacted by international market dynamics. Often, the processors determine the price on a monthly basis and simply inform suppliers. In some cases, processors establish longer term agreements including better conditions with POs that are more loyal in their supply (Rademaker et al., 2016). The limited bargaining power of individual POs and strongly fluctuating milk prices impact the effectiveness of these market linkages.

Local buyers, such as traders and direct consumers, offer alternative marketing channels for POs that provide instant cash. The relationships with the local traders are considered more stable than with the processors who have stricter quality requirements and offer fluctuating prices.

Often there are no formal agreements or contracts between POs and processors. Opportunistic behaviour seems to exist at both sides: POs switching between buyers looking for the best price and processors sourcing from both POs and larger commercial farms. Best inclusive business practices show that supply contracts between POs and processors are resulting in a more stable supply, provided fair prices are agreed upon. Especially, KMDP and TIDE aimed at strengthening and formalizing trading relationships between processors and POs (Roefs & Reynell, 2018; Molenaar & Blackmore, 2019).

POs that are associated into a higher-level union have better market access and power to negotiate with processors than individual POs. Bulking unions such as BAMSCOS in Kenya, supported by Agriterria, have a better bargaining position to negotiate about the price and extra services to be made available by the processor (see box 7 under 'access to knowledge'). Normally, at this level agreements and contracts are signed.

KMDP supported Meru Central Dairy Farmers Co-operative Union Ltd (MCDFCU), that started its own processing line as solution to access new markets; capture more profits and offer better milk prices to members (see box 10 under 'value addition'). The same philosophy was behind the establishment of DPUs by POs in Ethiopia with the help of EDGET. Despite the support on business development and marketing operations, resulting in increased volumes of milk collected by DPUs, several challenges remained (Atnaf, 2017). The end evaluation revealed that the supported POs in Ethiopia still struggle to create stable market linkages, to manage the processing and collection effectively and to access and maintain technology and equipment (Adugna, 2018).

2.2.4 Equitable access to services

Services are key for the existence and success of any inclusive business model. Without (quality) services an organization fails to exist. This also holds for dairy business models. Services provision offers a lot of opportunities to ensure inclusiveness.

As mentioned before, one of the major challenges across POs is to establish stable milk supply through loyal, active and productive members. Investing in higher productivity may benefit the individual farmers and the PO, provided that the members are loyal suppliers. Several POs show that providing a wide range of services improves trust and loyalty to the PO and stabilizes milk supplies. Hence, due attention for the services system within the reach or at the own span of control of POs is essential, while investing in the dairy sector. The same applies for processors depending on the supply from POs.

Equitable access refers to making services accessible to all, including smallholders, women and youth. It includes successful solutions enabling **the access to inputs, technology, knowledge and credit, as well as developing incentives that encourage producers to invest in their own production** based on market needs. All Dutch dairy support programmes target the improvement of services, most dominantly increased access to knowledge through training, extension and farm advisory services with the aim to improve productivity.

Overall, POs and processors do not tailor services to the needs of different members. Certain services that are more costly are more accessible for the medium and large-scale farmers. Similarly, services resulting from support interventions, such as the technical trainings offered by PDTC, are sometimes available at a cost that is usually only affordable for medium and large farmers. Unless subsidies are given, the less resourceful members will not be able to access them.

Access to inputs and technology

Both POs and processors have a strong focus on access to services. A best inclusive business practice to improve the access to inputs is establishing a 'one stop services shop' for farm inputs and other farmer needs (Rademaker et al., 2016). These include farm inputs, artificial insemination (AI) and animal health services and consumption goods (Rademaker et al., 2016). The services are in principle only accessible for actively supplying members. In practice, this is only enforced in relation to payment facilities such as the check-off system. The respondents of this study indicated that most services are considered qualitative and accessible. Processors often provide services through the PO to producers, focusing mainly on veterinary doctors, extension and milk collection and transportation services.

Box 5: Do services pay off?

Mumberes PO focused on providing a wider range of services to members through two input shops. Some of the services are: Inputs on checkoff (fodder); extension services (extension officers and demonstration fields); veterinary services (artificial insemination); rental services (chaff cutter); milk collection through transporters; access to loans and capital (school fees). The establishment of stable relationships with input providers and formalization of agreements through contracts for three months contributes to this. Almost all farmers make use of the services that are available to members on check-off. Through the improved accessibility of these services, member farmers adopted new practices such as silage making, semi/zero-grazing units, a proper farm structure, better breeds, better animal health. The milk collection services enabled the PO to establish a strong local network and presence to attract more milk supplies and reduce side selling. As a result, the quality and quantity of the milk was expected to improve significantly. However, a decline in milk supply per active member is noticed. Hence, it is very likely that side selling or direct sales to processors occur on a regular basis, undermining the investment made by the PO in services and the effectiveness of the business model (see Annex 4).

In general input and technological services of dairy POs and processors need to be further improved by expanding the range and making them more tailored and accessible for specific target groups. One example is the introduction of specific technologies that reduce the workload of women to empower them as dairy producers (such as backyard forage production and improved milk handling) by EDGET (Guluma & Mwangi, 2018). There is especially additional demand in the area of: veterinary services including AI and improved breeds, qualitative feed and weighing and transportation services.

Box 6: Realize stable milk supply

In Uganda, Abesigana invested much in good linkages with (input) service providers, allowing easy access to inputs for members. Hand in hand with awareness creation on the importance and benefits of PO membership, helped to stabilize the milk supply to the PO. Hence, resulting in a stable milk supply to various processors, although this depends on the milk price. This combination of good service delivery and sensitisation to members on the importance of loyalty and delivery to the PO has resulted in a throughout the year rather constant supply of milk, even in the dry season which is a remarkable result (see Annex 4)

A best inclusive support intervention from Dutch dairy development programmes is the introduction of innovative services through youth groups. Both, TIDE and KMDP, stimulated youth within POs to form groups and offer silage making services to members (youth-led service provider enterprises: SPE) (SNV, 2019; Molenaar & Blackmore, 2019). The groups received technical and business trainings and subsidies to acquire the machinery (Molenaar & Blackmore, 2019). The strength of this initiative is that it includes youth through employment creation, aims to offer accessible services to smallholder members and is a financially viable business model if well designed and managed (Kilelu et al., 2018).

Access to knowledge

Common extension services include training from extension officers, field days, exchange visits and lead farmer advice. Best observed support interventions are the development of T&E units by POs; payment of extension officers by processors to support suppliers in improving productivity and co-financing of field days by processors and input suppliers (Katothya & van der Lee, 2016; SNV, 2019).

KMDP and TIDE contributed to improving extension services by promoting the employment of extension officers by POs and processors (Rademaker et al., 2016; SNV, 2019). Also, the selection of women and youth for extension officer roles was promoted by KMDP. The efficiency and reach of extension officers can be further improved by appropriate T&E unit investments and building human resource management capacities of POs and PO-led processors (Katothya & van der Lee, 2016).

The attendance rate of trainings and the level of adoption by farmers are indicators for the effectiveness of extensions services. A private sector led T&E model, demand-driven training agenda, practical training methodology and tailored training materials are found to be the most effective (Katothya & van der Lee, 2016; Meenink & Mwangi, 2018). A serious limitation observed, is that farmers do not keep consistent and accurate productivity records at farm level hence the impact of the extension services cannot properly be measured.

Box 7: Processor supports union with extension services

A best practice related to extension services is found in Kenya at BAMSCOS union. The processor pays 0,5 KSH cents milk extension bonus to the union, which is reserved for investments in extension services. The main processor started with this practice and BAMSCOS was successful in negotiating the same arrangement with other processors. An encouraging result is that the milk supply to the processor is increasing significantly with 12% per annum. Agriterra supports BAMSCOS in further improving the quality and effectiveness of the extension services. Focus is on building the capacity of extension officers and lead farmers in effective communication, to reach more members and increase the adoption of new farming practices. Technical knowledge is often available, but how to communicate and train farmers effectively is a challenge.

Agriterra and KMDP support POs in adopting a sustainable approach to extension services in which the financial sustainability and farmer-led principles are put at the centre and ownership of the extension model lies fully with the PO or union (Molenaar & Blackmore, 2019). A limited (affordable) number of extension officers that work hand in hand with active lead farmers (training of trainers' approach) can be a successful model to reach a larger group that is more inclusive, going beyond the usual innovators. Such a cascaded extension approach relies on motivated and willing lead farmers that receive the appropriate support (training at PDTCS) and incentives to use their farm for training purposes (Rademaker et al., 2016).

Besides, the appointment of women and youth as extension officers and lead farmers as a role model to inspire others, there is limited attention for targeted inclusion of these groups through T&E. This demands further strengthening of the extension system which might be challenging given the limited abilities of POs and processors to continue without the support from Dutch dairy development programmes (Molenaar & Blackmore, 2019).

Access to credit

Access to finance for smallholders and other specific target groups remains one of the key challenges to improve milk productivity and quality. PO initiatives that address this challenge, include the check-off system and advance payments as well as the establishment of a Saving and Credit Cooperative Society (SACCOS) by dairy POs as a separate entity. Such SACCOS provide special dairy products, enabling members to buy shares or save and access loans to invest in the dairy sector (see box 8). In Kenya, Agriterra worked with both dairy POs and SACCOS, that have a similar member base, to align their services. Through this, farmers can more easily access credit to strengthen their dairy business, save increased profits and re-invest for further expansion. Stronger members can reinforce the business of both the PO and the SACCOS. Also, TIDE intervened in Uganda to facilitate the access to affordable dairy loans through partnerships with local SACCOS (SNV, 2019). In some cases, processors support suppliers financially through advance payments or loan guarantees. Overall, the focus of Dutch dairy support interventions on access to credit is limited.

Box 8: Financial solutions for the smallest producers

Naari in Kenya is an example of a PO with specific attention for the smallest suppliers. The PO provided technical and financial support for members supplying <5 litres of milk per day. The PO started by investigating the main reason for the low milk supply of these members, which appeared to be the low quality of cattle breed. As a solution, technical advice for buying animals of a stronger breed with higher milk potential combined with a loan provision from the new established SACCO of the PO were introduced to enable the members to increase milk volumes (see Annex 4).

2.2.5 Inclusive innovation

Innovations should be developed with smallholder farmers rather than for them. Inclusive innovation development provides the means to remain competitive in the market: to improve the commercial value for goods and services; and for innovation gains to be shared among partners, all of which build business durability.

To improve competitiveness and business durability, POs focus on management innovations that benefit members and stimulate loyalty. Examples are better storage facilities, innovative and timely payment processes, provision of refreshments during awareness and training activities etc. Also, the respondents of this study consider the following

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interventions as inclusive innovations: investments in digitalisation of the administration and advanced equipment, such as coolers, weighing scales and tractors; and innovations that contribute to improving productivity, competitiveness, market linkages and prices.

Value addition

POs innovate by introducing value addition activities such as quality checks, packaging and the production of processed products (fermented milk, yoghurt and pasteurization). Value addition is done both on a small scale by for example women groups from POs and on a large scale by PO-led processors, either PO unions or primary POs. The first steps towards value addition are usually very small, and often supported by external parties such as development organizations or local governments. The aim is to generate more income from the milk, so that the PO can strengthen its position in the value chain and capture a larger share of the margin.

An example of value addition are the women groups in Uganda that started to process milk into Pro-biotic Yoba yoghurt at a small scale, supported by SNV. The objectives of this approach are multiple: increase income from the milk; engage women actively in the value chain and stimulate them to become member of the cooperative; and produce a nutritious product for local consumers. This approach of value addition by applying inclusive innovation (focus on specific target groups) shows encouraging results in female membership, value chain participation of women and income diversification of POs.

Box 9: Women group producing yoghurt

Kanyaanya in Uganda is a PO with 200 members of which 30% are women. A group of women was trained in pro-biotic yoghurt making, linked to the right input suppliers and supported by the PO in establishing a production site. Yoghurt production increased from 30 to 150 litres a day, sold locally. The challenges to further expand the business are a lack of marketing skills and lack of storage facilities. Thanks to the governance training and success of the yoghurt business, the women are now more involved and better represented in the decision-making bodies of the PO and female membership is increasing.

According to POs the main challenge to start these business activities is access to the required resources, such as knowledge and expertise, machinery, energy and inputs, finance and certification. KMDP introduced an innovation fund for women and youth to stimulate business development (Molenaar & Blackmore, 2019). In addition, it is critical to have a clear marketing strategy to secure demand for the new products. To tackle these challenges, the support interventions provided technical assistance to POs in preparing good feasibility studies and business plans.

However, there are several examples of POs that invested in processing but were unable to establish or maintain a profitable business. EDGET experienced this for instance with a majority of the DPUs as mentioned under 'effective market linkages'. Several POs can collaborate through a union to invest in a processing facility. As a separate entity the union can specialize in processing and offer better prices to supplying member POs (see box 10).

Box 10: Value addition for higher milk prices

The processing activity of Meru Central Dairy Farmers Co-operative Union Ltd is a good example of an inclusive innovation that improves milk prices. Because of the value addition, a wider market segment of higher value products can be targeted. The higher profit margin and price stability of these products enables the union to offer a better milk price to member POs and their farmers. In principle, the profits are also shared with POs and farmers as members and owners of the processing facility. Therefore, Meru union offers an interesting alternative to milk producers as compared to private competitors by engaging in innovative activities (see Annex 4).

3. Recommendations for inclusive dairy business development

3.1 Inclusive business development for dairy sector transformation

Inclusive business models can be a powerful vehicle to transform the dairy sector in East Africa aiming to include more entrepreneurial smallholders, women and youth in a sustainable way. The increasing demand for milk products offers opportunities for entrepreneurial smallholders, women and youth, provided that inclusive business models allow them to access new and adapted technologies; effective input service provision systems; appropriate credit facilities and competitive innovations.

Dairy business models develop and evolve over time, the urgent need of productivity improvements and higher efficiency in the sector put pressure on smallholders to commercialize and adapt their extensive dairy farming systems for sustainable intensification. Competition from large farmers and international producers through imports further contribute to this. The willing-to-invest small and medium dairy farmers are the most promising group in terms of production improvement and these dynamics may lead to leaving behind those who cannot follow the mainstream dairy developments.

Similarly, small POs may be outcompeted by POs that are strong in management and service provision. Mergers or collaboration may be needed to retain bargaining power and reach economies of scale. Alternatively, POs can work together under umbrella unions, representing a cluster of POs. Value addition or vertical upscaling in the value chain is a dream for many POs, but they will encounter stiff competition from the private processors. Processors compete for milk supplies and might rely even more heavily on POs in light of the above projected developments.

The development of inclusive business models can address current and future dairy sector dynamics in several ways:

- access and formalize the large quantities of milk supplied by smallholders
- support and promote milk production and quality improvements to meet rising demand by facilitating access to inputs, extension, markets and credit
- integrate opportunities from the interdependency between value chain actors to achieve shared goals and competitive innovations
- formalize trade relations and supply and delivery conditions for long-term sustainable cooperation that guarantees win-win trading relationships
- include and align the role of service providers and enablers in the dairy sector
- enable deliberate decisions on the inclusiveness focus of different value chain actors to complement each other and find the optimum inclusive approach that can be achieved within the dairy sector

The above points are important elements to realize dairy sector transformation in East Africa with the ambition to: ***Meet the growing demand for milk and have a healthy and inclusive dairy sector by embedding commercial smallholder farmers, including women and youth, in the dairy sector as full-fledged actors in a sustainable way.***

3.2 Recommendations for inclusive business model development

The lessons from this study provide several points of recommendation to develop successful inclusive business models:

1. Specify the different positions and needs of the various producers and suppliers that are targeted by the IBM

Inclusive business development starts with awareness on the diversity of producers, among others in terms of demographics (age, gender, farm size, location, sources of income, ownership of assets), lifestyle, behaviour and attitudes. To improve the inclusion of the heterogeneous groups of smallholders, women and youth, the different needs shall be known and understood to develop targeted solutions. In order to differentiate various target groups, **segmentation of farmers can be a useful strategy to develop a more tailored approach per subcategory.** Moreover, the identification of separate groups helps to make deliberate choices on which to focus within the IBM. The same applies for processors, working with various POs that are in different stages of maturity, requiring a tailored or adapted approach to serve their specific needs and effectively include them in the business model.

2. Define the benefits of inclusion along the different dimensions of the IBM

An IBM will be more sustainable and better achieve the objected impact, if the inclusion provides clear and attractive benefits to target groups. In other words, it is important to determine which of the identified needs will be addressed within the IBM and how. This can be assessed with the help of the NBM principles, of which 'equitable access to services'

and ‘effective market linkages’ are recognized as most essential principle for inclusive business development. Examples of best inclusive practices show that services and stable markets stimulate loyal supply and help resolve barriers to increase production for income and livelihood improvement. Therefore, the **benefits should be qualified and quantified for structural and meaningful inclusion along various dimensions**. Alignment of inclusive practices to the needs ensures sufficient interest and demand from target groups that allows earning a better return on these investments such as services. The other principles of ‘chain wide collaboration’ and ‘fair and transparent governance’ appeared to be important to reinforce and strengthen inclusive relationships.

3. Calculate the financial viability of inclusive practices to ensure sustainability of the business model

A major challenge is that the financial viability of inclusive business model practices is not sufficiently considered. Often, inclusive practices are kickstarted with subsidies or grants from supporting organizations. This causes problems when projects phase out or proven initiatives demand further scaling. Therefore, the financial viability needs to be included in the design of different inclusive practices, while ensuring their affordability for the target groups, within the business model. This counts in particular for investments in extension services, as such services are traditionally perceived as being free of cost by farmers (in the past this was usually a public service) and does not provide immediate tangible results.

4. Adapt IBM to sector dynamics and developments to remain inclusive and competitive

The dairy sector is dynamic and competitive. Inclusive innovations and adaptations are needed to respond to technical, social, economic and environmental developments and safeguard the inclusivity, impact and financial viability of the business model. Thus, continuous monitoring and evaluation together with the target groups is a crucial element for inclusive business models.

3.3 Recommendations for support interventions promoting IBM development

Dutch dairy support interventions can further contribute to inclusive business development with attention for the following recommendations:

1. Define explicit target groups and develop tailored approaches

Smallholders, youth and women are not ‘automatically’ included in the support interventions of Dutch dairy development organizations. There is room for improvement in the design of support interventions to ensure that they effectively impact the inclusion of various farmer categories, through a **targeted approach with tailored trainings and support packages**. Separate target groups should be more explicitly defined and specific attention needs to be mainstreamed at any intervention level. A recommended good practice to develop effective and inclusive support interventions is to make an analysis of the cultural context to understand gender and traditional roles in the dairy sector and to involve various target groups in the design.

Some specific support interventions targeting **women** show encouraging results, but often not created a real breakthrough yet. The exclusion of women in certain aspects of the dairy value chain is caused by the deeper cultural and social background that defines the gender roles in society. In order to address this, long-term interventions are needed, such as a **gender transformative approach** in which the needs and possibilities of men and women to be included in the dairy value chain are more explicitly addressed in a transparent way, involving both sexes.

Best support interventions that have potential for scaling up:

- Promote women membership at PO level (offer dual membership; easy entry conditions for women)
- Encourage women participation in decision-making and leadership (leadership development; sensitisation on importance of diversity)
- Include women in additional value chain roles; both in value addition and dairy farming as a business (ownership of assets; personal milk payment account; employment as extension officer; yogurt production by women groups)
- Support women as role models (assign as lead farmers; reward top performing female farmers)
- Tailor knowledge and technologies (women trainings; introduction of female friendly technologies)

For **youth**, a lack of motivation and commitment is frequently mentioned as main barrier to engage in dairy farming. Youth can be motivated and attracted by quick income generating activities. If access to resources (finance, land, knowledge) is facilitated, they can establish dairy related businesses, such as being a service provider. Specific programmes are needed to create interest among youth to be part of the agricultural sector with perspective on income

generating activities, on opportunities to spearhead innovations and on a conducive environment in which they are seen, heard and recognized.

Best support interventions that have potential for scaling:

- Encourage youth participation in decision-making (establish youth councils or youth committees at PO level)
- Support start-up businesses run by youth, either individuals or as a group, as service providers (milk transportation and silage making by youth groups)
- Promote youth employment at the PO to engage them in the dairy sector (extension officer and milk collection and transportation)

Specific support interventions for **smallholders** (being men and women, old and young) that are affiliated with a PO, are important to ensure they are equally benefiting from interventions compared to medium and large farmers. The current experience is that most support interventions not exactly specify which type of PO members are targeted.

Support interventions that can be further strengthened to include smallholders:

- Strengthen smallholder representation within POs (membership criteria, leadership, lead farmers, role models, democratic decision-making principles)
- Ensure service provision is accessible and affordable for smallholders (smaller input packages and quantities; check-off and advance payment systems; tailored extension services)
- Improve market linkages through an efficient collection, transportation and cooling network (motorbikes, aluminium cans and coolers)
- Align members with SACCOS and support SACCOS in offering dairy related products at affordable rates

2. Facilitate chain wide collaboration and engage other dairy food system partners

Inclusiveness is realized by actors in the chain that work together. This can be achieved by defining a set of interventions that have a value chain wide approach. Chain-wide collaboration, as promoted by SNV, ensures that value chain actors receive equal attention tailored to their needs. Moreover, this approach helps to consider and account for the impact of support interventions on different levels in the value chain.

Dutch dairy development partners can play a facilitating role and conduct pilots to establish and strengthen long-term collaboration among value chain actors and other partners in the dairy food system. For instance, POs are an interesting target group for service providers as well as processors, to address a large group of farmers. POs can use this position in the value chain and take the lead in functioning as a platform for organizing the needed services for members. Support interventions can guide the PO to play this networking role of establishing partnerships with service providers, negotiating better deals and facilitating effective service delivery and payment processes.

There is a need for more formal partnerships based on shared values and mutual benefits. Informal arrangements may not be sustainable as they often lead to dissatisfaction or mal practises. Transparency and clear agreements help to create, stabilize and maintain chain wide collaboration and trading relationships. Transparent policies and regulations need to be ensured to create a conducive environment for collaboration in which governments and regulatory bodies can play a key role. Dutch dairy development programmes can support the lobby and advocacy efforts of the dairy sector and coordinate B2B platforms, roundtables and bilateral talks.

3. Support the development of financially viable inclusive business models

The technical focus of dairy projects (milk quality, fodder and forage, genetics) should go hand in hand with developing inclusive business development skills, such as governance and financial management. The Dutch dairy support organizations can support the development of sustainable inclusive practices by assessing the suitability to the needs of various target groups. Moreover, they should determine the financial viability of the inclusive business model while keeping an eye on the affordability for target groups. Dutch dairy support interventions perform especially well on improving services systems of which extension and inputs receive the most attention.

In addition, facilitation of experience sharing, replication and scaling of inclusive business practices within and between actors and countries can accelerate the transition to an inclusive dairy sector.

Develop an extension service structure that is inclusive and self-sustainable in the future:

- Institutionalise a ‘business approach’ to extension services at the PO level as financial feasibility is a must for long term existence
- Make use of lead- or model farmers: train them on delivering coaching and advice to neighbouring farmers based on proper support structures and incentives, so more farmers can be served
- Link extension workers to lead farmers for coaching and on the job training,

Use a targeted approach in the design of financially viable inclusive services systems:

- Support strong service provision through a ‘one stop services shop’ in areas where service providers are absent or not functioning or facilitating access to external service providers
- Provide proper attention to the financial sustainability of services: the investments should lead to additional income directly or indirectly through increased productivity or milk quality
- Avoid that services become an exclusive asset for better-off suppliers: a one-size-fits-all approach generally does not work, and effective service delivery calls for a stratification of suppliers and tailored services.
- Ensure equitable access by developing a service model that reaches out to the least-included: support local presence of service providers, such as extension workers, active lead farmers or external input and service providers
- Give more attention to access to credit, promote savings, potentially through SACCOS, and create partnerships with financial institutions

4. Stimulate impact measurement of IBMs in terms of income and livelihood improvement

Supporting organizations must be clear and focused in designing inclusive interventions with two main objectives: sustainable intensification of dairy farming resulting in higher productivity and improved quality (based on climate smart farming); and ensuring a fair income for dairy farmers from the sector. The sixth NBM principle of ‘measurement of outcomes’ was not included because of the limited existing practices in this field. However, the main objective of inclusiveness is to improve the income and livelihood of the identified target groups which should be properly measured to evaluate best inclusive business models. The contribution of inclusive practices to lift dairy farmers out of poverty demands thorough analysis that can be performed with the help of Dutch dairy support programmes.

5. Assess and advice on the complementarity of IBMs from various dairy stakeholders

The dairy sector in East Africa can become more inclusive if the IBMs from various actors complement each other in terms of target groups and/or benefits. Every organization needs to prioritize among potential target groups to effectively allocate limited resources and maintain the financial viability of the business model. Therefore, different actors can complement each other in targeting different groups or addressing other needs. For instance, POs can provide part of the input services themselves and involve other service providers with more specific expertise (financial, AI, solar energy and water supply companies). Similarly, the interventions from public partners ideally complement initiatives from the private sector and focus on creating an enabling environment to stimulate inclusive business development.

3.4 Additional considerations for IBM development

The broad concept of IBMs includes more relevant perspectives that couldn’t be studied in depth within this research. Several topics that were encountered and are considered most important to complement the findings of this study are:

1. Input and service providers lead

Next to POs and processors, there are other types of actors in the dairy sector from which the business model can be analysed on inclusiveness. For instance, input and service providers can ‘lead’ the inclusive development of the dairy sector as well. More often, input and service providers are combining extension services with product sales and collaborate more intensively with POs and processors. The most successful examples of inclusive practices from various service providers (inputs, equipment, finance and infrastructure) and other dairy actors, such as SMEs, can further enrich the picture of inclusive dairy business models.

2. Public-private partnerships

The public sector plays an important role in dairy development. Especially, with respect to extension services there are traditionally several public initiatives. While it strongly depends on the context, public interventions can support IBMs. Also, in the design of Dutch dairy support interventions collaboration takes place with public institutions. Therefore, the contribution of public-private partnerships for inclusive dairy sector development is another interesting perspective to more effectively align resources and efforts.

3. Impact of Dutch dairy development project funds on private sector initiatives

The challenge of the financial viability of IBMs is already mentioned as often inclusive practices are kickstarted through subsidies. The impact of Dutch dairy development projects on the competitiveness of private sector initiatives is important to take into consideration. The potential distorting effects must be minimized to develop long-term sustainable sector transformations.

4. Enabling environment

The enabling environment of the dairy sector in East Africa requires further strengthening to make the adoption of inclusive business practices more conducive. Especially, in terms of policy and regulations and infrastructure. Some of the challenges related to milk quality improvements demand for instance policy intervention. Insight in the critical conditions of the enabling environment for inclusive practices to emerge and thrive will help the development of IBMs.

References

- Addink, S., Goedhart, T., Schaap, A., de Vries, T., Haileselassie Hailu, Y. & Steenbergen, B. (2019). *Formulation of the dairy cooperatives development plan under TIDE phase II, SNV TIDE programme*. Uganda: Agriterra.
- Adugna, J. (2018). *Dairy POs - Towards economic empowerment for farmers, SNV-EDGET Practice Brief 6*. Ethiopia: SNV.
- Agriterra (2019, March 6). *Good results female leadership training in Ethiopia*. Retrieved from Agriterra: agriterra.org
- ALINE (2018). *EDGET Project Final Evaluation Report*. London: Aline Impact Ltd.
- Atnaf, Z. (2017). *Increased Income from dairy - the farmer perspective, SNV-EDGET Practice Brief 1*. Ethiopia: SNV.
- CIAT (2012). *LINK Methodology, a participatory guide to business models that link smallholders to markets*. Colombia: Centro Internacional de Agricultura Tropical, CIAT Publication No. 380.
- Guluma, N., & Mwangi, W. (2018). *SNV-EDGET Practice Brief 5: Empowering women in the dairy value chain Ethiopia*. Ethiopia: SNV.
- Gradl, C., Knobloch, C., & Institute, E. (2010). *Brokering Inclusive Business Models*. New York: United Nations Development Programme.
- Kathothya, G., & van der Lee, J. (2016). *Status report KMDP: Training and extension approaches*. Kenya: SNV.
- Kathothya, G. (2017). *Gender assessment of dairy value chains: evidence from Kenya*. Rome: Food and Agriculture Organization of the United Nations.
- Kelly, S., Vergara, N., & Bammann, H. (2015). *Inclusive business models; guidelines for improving linkages between producer groups and buyers of agricultural produce*. Rome: Food and Agriculture Organization of the United Nations.
- Kilelu, C., Koge, J., Kabuga, C., & van der Lee, J. (2018). *Performance of emerging dairy services agri-enterprises: a case study of youth-led service provider enterprises (SPE)*. Wageningen: 3R Kenya project, Performeter Agribusiness Ltd and Wageningen Livestock Research.
- Kithinji, J., Muchina, C., & Jansen, A. (2016). *Gender Scan Report Kithirune and Uruku Dairy Farmer Cooperative Societies*. Kenya: SNV
- Makoni, N., Mwai, R., Redda, T., Zijpp, A. v., & van der Lee, J. (2014). *White Gold; Opportunities for Dairy Sector Development Collaboration in East Africa*. Wageningen: Centre for Development Innovation, Wageningen UR (University & Research centre), CDI report CDI-14-006.
- Meenink, H., & Mwangi, W. (2018). *Reaching 65,000 dairy farmers - The EDGET extension challenge, SNV-EDGET Practice Brief 4*. Ethiopia: SNV.
- Molenaar, J., & Blackmore, E. (2019). *Evaluation of the Kenya Market-led Dairy Programme II (KMDP II)*. Amsterdam: aidenvironment.
- Ndambi, A., Njiru, R., Knippenberg, v. C., Lee, v. d., Kilelu, C., Ngigi, M. M., . . . Wangu. (2019). *Enhancing milk quality and safety*. Wageningen: 3R Kenya project and Wageningen Livestock Research.

- Rademaker, C., Bebe, B. O., van der Lee, J., Kilelu, C., & Tonui, C. (2017). *Sustainable growth of the Kenyan dairy sector: a quick scan of robustness, reliability and resilience – Executive summary*. Wageningen: Wageningen UR (University and Research).
- Rademaker, I., Koech, R., Jansen, A., & Van der Lee, J. (2016). *Smallholder Dairy Value Chain Interventions; The Kenya Market-led Dairy Programme (KMDP) - Status Report*. Wageningen: Wageningen UR Centre for Development Innovation.
- Roefs, M., & Reynell, P. (2018). *Mid-Term Review SNV TIDE*. Wageningen: Wageningen UR Centre for Development Innovation.
- SNV (2019). *TIDE Annual Report 2018*. Uganda: SNV.
- SNV (2018). *TIDE Annual report 2017*. Uganda: SNV.
- UNDP. (2008). *Creating value for all: strategies for doing business with the poor*. New York: United Nations Development Programme.
- Verjans, H. (2014). *Scaling inclusive innovations: A study on dairy business hubs in Kenya, MSc thesis*. Wageningen: Knowledge, Technology and Innovation Group, Social Sciences Department, Wageningen University and Research.
- Wageningen Livestock Research (2019, 07 23). *Dairy Business Information Service and Support Project Ethiopia (DairyBISS)*. Retrieved from Wageningen University and Research: <https://www.wur.nl/nl/project/Dairy-Business-Information-Service-and-Support-project-Ethiopia-DairyBISS.htm>

Annex 1: Inclusive Business Models - examples

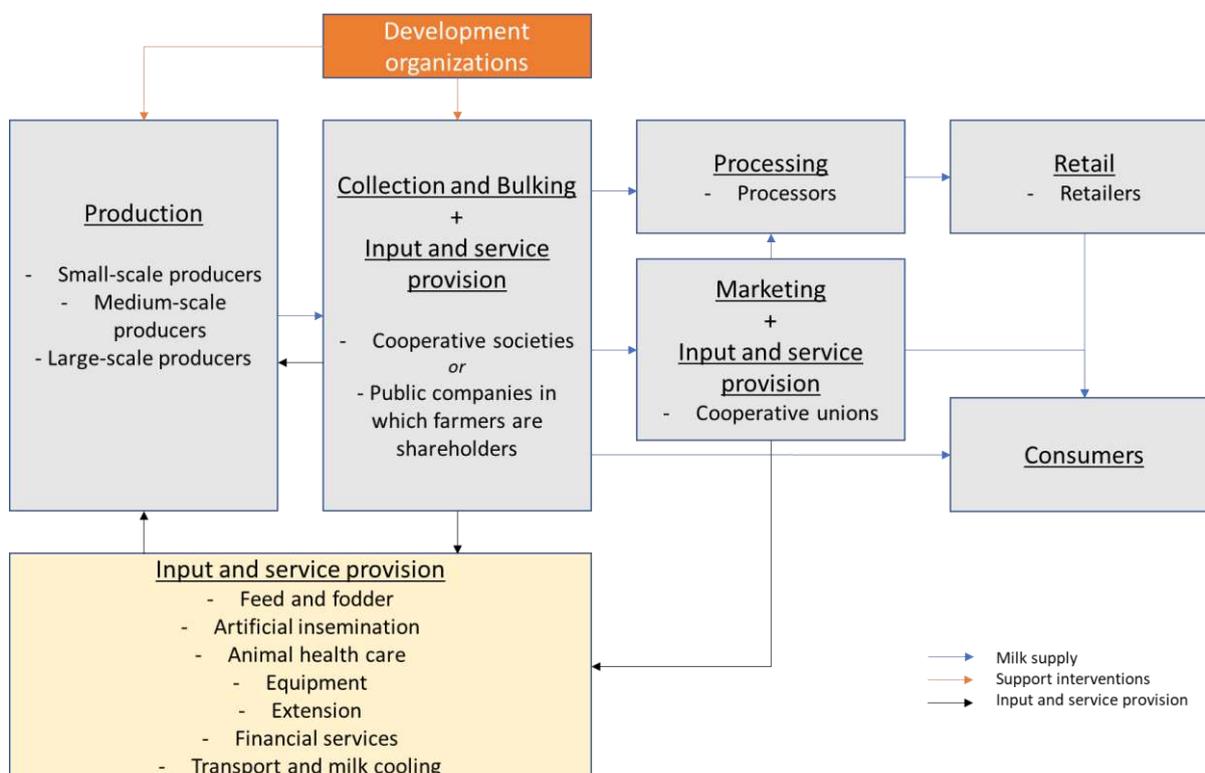
In practise, each organization has a unique business model. It is difficult to distinguish and categorize business models as they often have partly overlapping characteristics and many different terminologies are used. Moreover, a certain type of business model cannot simply be labelled as inclusive or exclusive but should be assessed on the level of inclusiveness on various dimensions. The main IBM models described below are a way of modelling reality. It should be realised that there exist many 'hybrid' forms in which for instance the PO-led model evolves towards a Processor-led model. The interaction between farmers, POs and processors and other actors takes many different shapes, which is not easily framed into a model, and over the year's situations are changing.

1. Producer Organization (PO)-led ISP model

A common business model in Kenya, Uganda and Ethiopia is the farmer-owned and -managed organization, often referred to as Producer Organization (PO) (Rademaker et al., 2016; Makoni et al., 2014; Verjans, 2014)). Initially, the POs mainly focused on milk collection and bulking activities, in line with the important objective to link member farmers to the market, either by selling the milk directly to end consumers or through contracted supply to milk processors (Rademaker et al., 2016).

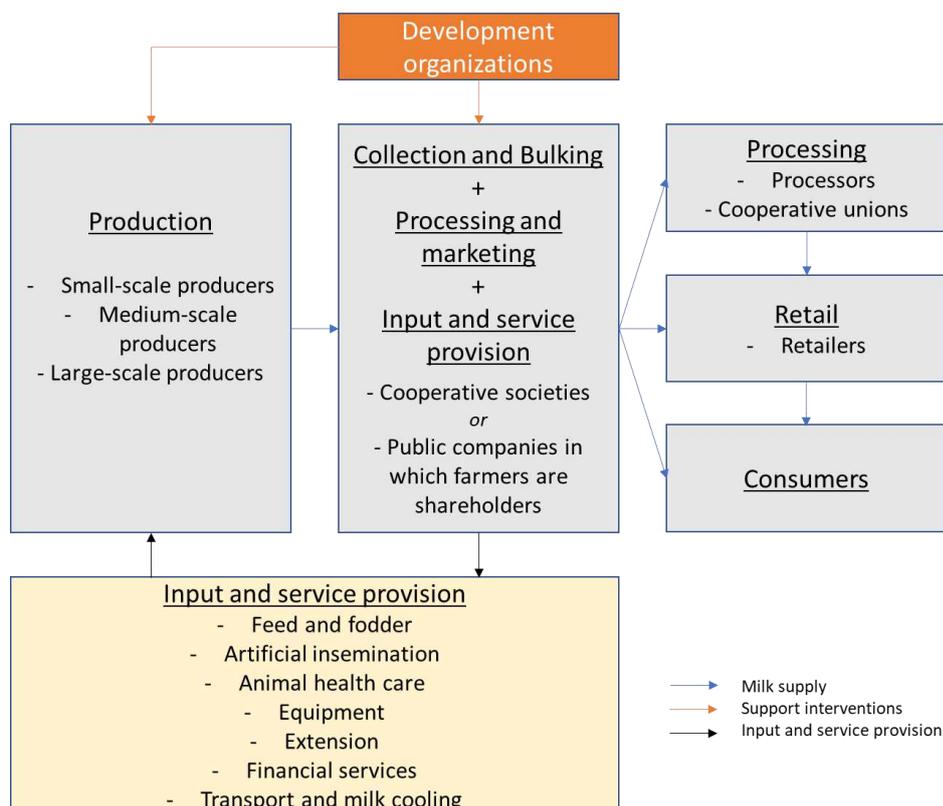
Recent dairy development projects (e.g. East African Dairy Development (EADD), KMDP, TIDE) have been focusing on strengthening the POs service delivery beyond collection and bulking (Rademaker et al., 2017). Examples of additional inputs and services include: farm inputs, financial services (credit, loan guarantees and check-off system), artificial insemination and animal health services and training and extension (T&E) services (SNV, 2019). POs either offer these services in-house or make arrangements with private input and service providers and link them to their members (Rademaker et al., 2016). Other terms that refer to these types of entities are collection and bulking enterprises (CBEs) and Dairy Business Hubs. Figure 2 presents a schematic representation of the PO-led service provision business model within the dairy supply chain. Sometimes, if cooperative unions exist, they can support or complement the service provision of POs.

Figure 1: PO-led traditional ISP model



Some POs started to integrate value addition activities in their business, such as milk processing and yoghurt making. The final products are generally marketed directly, without relying on larger processors, either to retailer or end consumers by establishing milk shops (bar's and ATM's). Occasionally, PO may sell the surplus of milk to processors. Due to the investments required, POs may combine their investments, e.g. through a PO union in which the processor-led ISP model explained below is applicable.

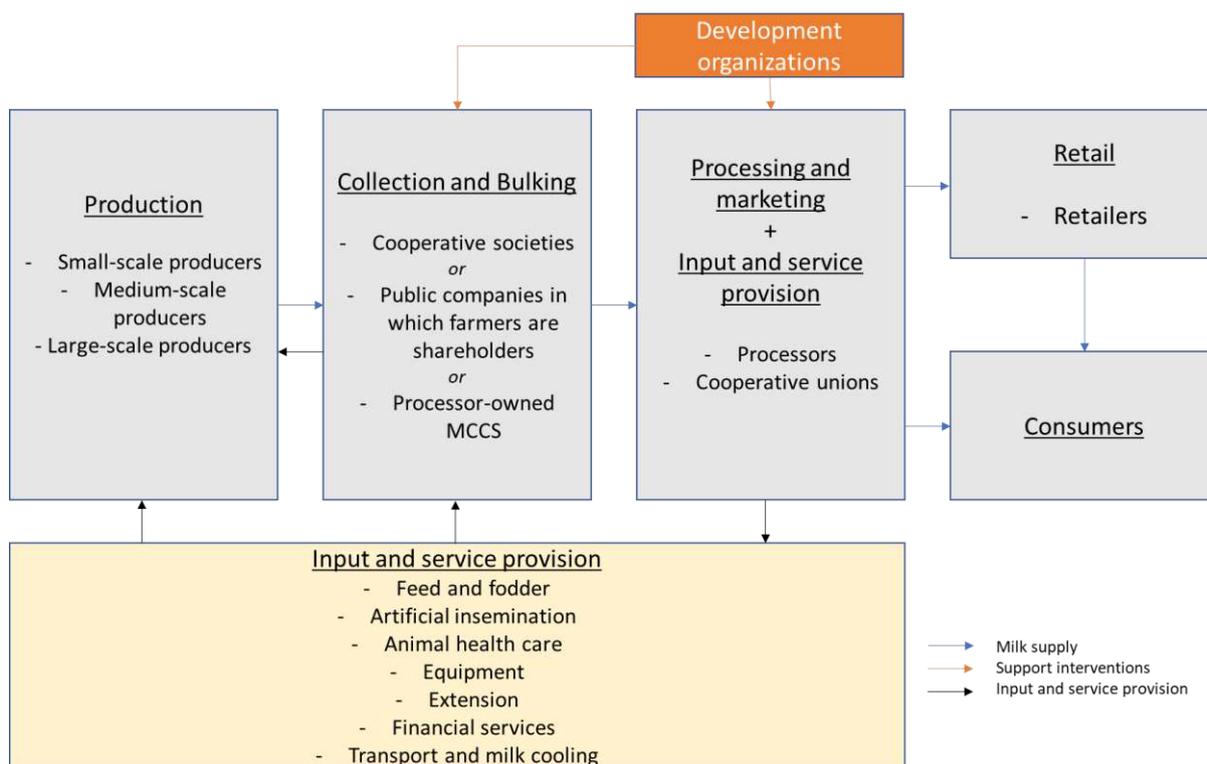
Figure 2: PO + value addition-led ISP model



2. Processor-led ISP model

In the processor-led ISP model, the processor takes on additional responsibilities regarding provision of inputs and services to POs (and their members) and other suppliers (SNV, 2019). For example, processors may organize the provision of training and extension services targeting farmers. Also, they may establish relationships with input providers to supply their farmers or may provide financial services to farmers in order to improve their production on the farm. The difference between the processor-led ISP model and the previous model where POs start processing activities is that for the former processing is the core business of the organization, which also includes PO-led processors such as cooperative unions, and normally supplies milk from POs (not from individual producers).

Figure 3: Processor-led ISP model



Annex 2: Dutch dairy development programmes

The research on inclusive business is limited to three countries: Kenya, Uganda and Ethiopia, as these have or had major dairy projects implemented and supported by Dutch organizations taking part in NEADAP. These include: KMDP, 3R Kenya, TIDE, EDGET, DairyBISS projects and Agriterra's activities in each of the countries.

The Kenya Market-led Dairy Programme (KMDP) was implemented in two phases by SNV from 2011 to 2019. The overall goal of KMDP was to contribute to the development of a competitive dairy sector, driven by the private sector, with beneficiaries across the value chain (Rademaker et al., 2016). While KMDP-I intervened at individual POs, KMDP-II worked through a processor-led approach, in which processors that employed an inclusive business approach were supported by the programme (SNV, 2019).

The Inclusive Dairy Enterprise (TIDE) is implemented in South Western Uganda with the overall objective to improve dairy farm incomes for 20,000 farmers by supporting sector transformation through market-based approaches (SNV, 2018; SNV, 2019). SNV is the lead implementing organization of TIDE in collaboration with several partners such as Wageningen CDI, Bles dairies, Agriterra, DDA and some others. The programme started in 2015 and the second phase starts in 2020.

The Enhancing Dairy Sector Growth in Ethiopia (EDGET) project of SNV, targeted livelihood improvement of 65,000 smallholder farmer households across three regions, focusing on income and the nutritional status of children (Atnaf, 2017). Which should be achieved by increased dairy production and enhanced dairy processing and marketing through targeted interventions with DFEGs, POs and agro input dealers. Also, specific attention was given to promote women and youth entrepreneurship (ALINE, 2018). EDGET started in 2015 and is followed by the BRIDGE project in 2019.

DairyBISS is the abbreviation for Dairy Business Information Supply and Support carried out by Wageningen UR Livestock Research and partners. This project aimed to stimulate private dairy sector development in Ethiopia, mainly through establishing a dairy business platform, facilitate B2B relations and the availability and utilization of quality business information (Wageningen Livestock Research, 2019).

Agriterra is supporting dairy farmers organizations (POs, unions) in the research countries with business development, services provision, governance and lobby and advocacy abilities. A training package specifically designed for POs has been developed over the years, based on worldwide best practices of PO management. Agriterra puts the farmers organization central, who is in the lead of defining the direction and responsible for implementation for the interventions.

The selection of projects is based on the availability of results, thus more focused on past projects where the interventions have been finalized and the outcomes are documented. In addition, resource constraints such as time and budget demanded to be more selective and limit the scope.

Below table summarizes the support interventions that contribute to inclusive business model development, in terms of the position of smallholders, women and youth and the dimensions of the NBM principles.

Table 2: Summary best inclusive business practices and dairy support interventions

Business model type	Best Practice	Dairy supporter	Contribution
Smallholders, women and youth			
PO	Gender awareness and female leadership increase	TIDE / Agriterra / EDGET / KMDP II	Female leadership training Quota female leadership positions
PO	Ease membership conditions and dual household memberships	EDGET	
PO	Women and youth council establishment	Agriterra	Women and Youth participation
Chain wide collaboration			
PO and processor	Frequent communication through various channels and inclusive decision-making processes	KMDP I & II / TIDE / Agriterra / EDGET	Governance training
PO and processor	Shared goals and distribution of benefits through dividends and higher milk prices	KMDP I & II / EDGET / Agriterra	Financial and business management training
PO and processor	Partnerships with input and service providers: input dealers, financial institutions, research, government authorities, NGOs	KMDP I & II / TIDE	Facilitate B2B linkages through meetings, training workshops
Fair and transparent governance			
PO and processor	Introduction of milk quality policies and procedures	KMDP I & II	Training and advice
PO and groups	Milk safety knowledge and hygienic handling practices for farmers, collectors and graders	KMDP I & II / TIDE / EDGET	Training
PO and groups	Use of improved transportation cans: hygienic multi-purpose containers and aluminium cans	KMDP I & II / EDGET	Advice and subsidy
Processor	Milk track and trace system	KMDP I	Software
Processor	QBMPS pilot: i.e. quality tests, reward system for improved quality and extension support for farmers when milk is rejected	KMDP I & II	Software, infrastructure for milk testing, equipment, PO mini-labs and processor lab upgrade
Processor	QBMPS pilot: i.e. milk quality awareness, milk analyser kits, quality procedures	TIDE	Training on milk quality and tests, subsidy analyser kits
Effective market linkages			
PO	Offer a guaranteed market by ensuring sufficient working capital	KMDP I	Partnership with FI to facilitate access to finance

PO and processor	Facilitate market linkage through effective collection and transportation systems	TIDE / EDGET	Support investment in milk coolers, motorbikes for transport, establish and strengthen MCCs
PO and processor	Stabilize milk supply through fair prices, frequent payments and other services contributing to livelihood improvement	KMDP I & II / TIDE / Agriterra	Financial management training and improve bankability
PO and processor	Formalize supply agreements (especially between PO and processor)	KMDP II / TIDE / Agriterra	Facilitate discussion and MoU or other formal agreements
PO	Establish a union or processing unit to improve bargaining position and access new markets	KMDP I & II / TIDE / EDGET / Agriterra	Strengthen union development, establish DPUs by providing access to technology, equipment, expertise, market linkages
Equitable access to services			
PO	Strengthen service delivery system through 'one stop services shop' with broader range of in-house services	KMDP I / Agriterra	Sustainable services Workshop and follow up; Governance and management training and link to input suppliers
PO	Provision of services: in calf heifers, fodder and silage making, water for production and mechanisation	TIDE	Subsidy, link to finance and service providers
PO	Youth (SPE) groups for employment through service provision, mainly fodder preservation services (silage making)	KMDP I & II / TIDE	Facilitate training, co-funding of machinery through innovation fund, coaching, technical assistance and market linkages
PO and processor	Establish T&E unit by employing extension workers, assign a T&E board subcommittee and allocate budget to run annual practical farmer training programmes	KMDP I & II / TIDE / Agriterra	Train extension workers, cost-share salaries and motorbikes, coaching and mentoring of extension workers on effective practical training methodologies, stimulate private dairy advisors' roles as consultants
PO and processor	Engage input and service providers in the training delivery (Product and services mix)	KMDP I & II / TIDE	Link and networking with input suppliers and service providers
PO	Collaboration with SACCOS for improved access to affordable credit	TIDE, Agriterra	Support dairy farmer SACCOS ; Develop partnerships with dairy farmer focused SACCOS, provide non-reimbursable grant to buy down interest rates
Inclusive Innovation			
PO	Women groups engaging in value addition	TIDE	
PO	Innovate with value addition practices (union level) to improve profitability and offer higher prices to smallholders	KMDP II / EDGET	Establish DPUs by providing technical and business training, coaching and management backstopping, facilitate market linkages

Annex 3: Selected POs and processors

For Kenya, the 18 POs participating in KMDP-I and 17 POs supported in KMDP-II were reviewed in the quick scan. In addition, the 11 POs supported by Agriterra were included if they were not yet selected due to overlap with KMDP. In total 41 POs have been assessed, based on which 9 POs were selected for the field visit. Furthermore, 2 processors supported by KMDP-I and II on QBMPs were selected (Meru Union, Happy Cow Ltd).

Table 3: Selected organizations interviewed in Kenya

	Organization	Client of	ISP Model	Respondents*
1	Chepkorio	Agriterra	PO-led	5F, 1B, 1Mgt
2	BAMSCOS	Agriterra	PO-led	3F, 2LF, 2B, 2Mgt
3	Mumberes	Agriterra/KMDP-I	PO + value addition-led	2F, 2LF, 1B, 1Mgt
4	Mukurwe-ini	Agriterra	PO + value addition-led	2F, 3LF, 2Mgt
5	Tulaga	Agriterra	PO-led	2F, 2LF, 2Mgt
6	Olunguruone	KMDP-I/II	PO-led	4LF, 1B, 1Mgt, 1EO
7	Buuri	KMDP-II	PO-led	3F, 2LF, 2B, 1Mgt
8	Naari	KMDP-I	PO-led	1F, 4LF, 2B
9	Abogeta	KMDP-II	PO-led	3F, 2LF, 1B, 1Mgt
10	Happy Cow Ltd	KMDP-I/II	Processor-led	2Mgt
11	Meru Union	KMDP-I/II	PO-led processor	1B, 1Mgt

*Respondents: F=farmer, LF=lead farmer, B=board member (including chairman), Mgt=Management, EO=Extension officer

For Uganda, the selection process was slightly different. Because of the large number of POs participating in TIDE, i.e., 75, it was not possible to scan all organizations, hence a pre-selection of POs took place. During the pre-selection, POs that presented some growth in membership over the period of their involvement in TIDE, potentially established youth groups, include women in the Board of Directors and engaged in some kind of value addition (e.g. yoghurt making) were selected. In total, 21 POs were identified during the pre-selection phase on which the quick scan, similar to Kenya, was performed. Out of the 21 POs 9 were selected from five districts (Isingiro, Mbarara, Kiruhura, Ntungamo and Lyantode) to be included in the data collection process. Two processors, i.e., Pearl and Sanatos were included in the interviews.

Table 4: Selected organizations interviewed in Uganda

	Organization	Client of	ISP Model	Respondents
1	Abesigana	TIDE/Agriterra	PO-led	6F, 3LF, 1B, 1Mgt, 1EO
2	Kabubu	TIDE/Agriterra	PO-led	6F, 2LF, 1B, 1Mgt
3	Kanyaanya	TIDE/Agriterra	PO-led	7F, 2LF, 1B, 1Mgt, 1EO
4	Nyamitsindo	TIDE/Agriterra	PO-led	3F, 4LF, 1B
5	Rukaka	TIDE/Agriterra	PO-led	5F, 3LF, 1B, 1Mgt
6	Rushere	TIDE/Agriterra	PO-led	6F, 2LF, 1B, 1Mgt, 1EO
7	Kyakabunga	TIDE/Agriterra	PO-led	6F, 3LF, 1B, 1Mgt, 1EO
8	NDAFCU	TIDE/Agriterra	PO-led	5F, 2LF, 1B, 1Mgt,
9	Kabula	TIDE/Agriterra	PO-led	4F, 3LF, 1EO
10	Pearl	TIDE	Processor-led	1Mgt, 1EO
11	Sanatos	TIDE	Processor-led	1Mgt, 1EO

*Respondents: F=farmer, LF=lead farmer, B=board member (including chairman), Mgt=Management, EO=Extension officer

Annex 4: Case studies

Uganda

Name	Abesigana Kashari Dairy Farmers Cooperative Society
Location	Uganda, Mbarara

Organization profile	
Year of establishment	1992
# of members	164 of which 22 women (13%) and 41 youth (25%)
# of daily milk suppliers	131
Daily milk collection amount (litre)	9,000-13,500L (average per day= 11,000 litres)
IB Model	PO-led and small-scale value addition
<p>Introduction: Abesigana DFCS, initially began with 48 members which has increased to over 160 of which 13% are women and 25% are youth. Their mission is “to provide efficient services in production and marketing of farmers products”. The cooperative’s core activities are collecting milk from members, bulking and chilling, prior to the sales to processors. There are three milk chilling facilities with a total capacity of 15,000L. The cooperative engaged in a number of member loyalty initiatives over the years, such as access to services, to achieve an active, stable and loyal membership base. This resulted in 90% of milk delivery by the members to the cooperative. Special attention has been given to the social and economic empowerment of youth and women.</p>	



Organizational inclusiveness	
Farmer size	12% large; 22% medium and 66% smallholders
Women	22 female members, 2 female board members (first women BoD member in 2008), 4 women in management and 1 female model farmer.
Youth	2 youth in the board (since 2014) and 2 in management. Youth council established in 2017 having 15 members.
<p>Women: Abesigana DFCS values democratic principles and supports female leadership. The highest leadership position (chairperson) is occupied by a man who aims to achieve outstanding cooperative governance. The chair encourages women to have the vigour to engage in cooperative activities. Out of nine board members, two are women. Several staff management positions are taken by young women such as the manager (both the dairy and SACCOS have a female manager), accountant, account assistant and input supplies shop salesperson. The active women involvement contributes to building self-confidence to take up leadership roles outside the cooperative, for instance at the district level, as well. Women have been targeted with trainings such as practices to improve the hygiene of animals. The activities focused on women, resulted in a slow growth of female membership and women participation in training and other activities. For instance, women were given the opportunity to engage in yoghurt making within the cooperative. The objective is not to provide women with a source of income from this activity, but to increase their involvement into cooperative activities. The profits are reinvested to support the expansion of the yoghurt business.</p>	
<p>Youth: In 2017, a youth council was established, which currently consists of 15 members. The youth council represents the youth, via an advisory committee, with a common voice to advise the cooperative in ways that</p>	

encourage finding practical and tailored solutions to youth related issues. The youth council took an active role in organizing motorbikes for milk collection, through the cooperative to provide employment and increase milk collection volumes. Also, a youth group owns a chaff-cutter for silage making, to offer paid services to member farmers.

Inclusive business practices	
Equitable access to services	Inputs: 'one-stop services hub' with inputs and consumer goods; extension services; machinery rental services; credit facilities: SACCO establishment
Chain wide collaboration	Diverse communication channels, strategic partnerships
Fair and transparent governance	Piloted QBMPs
Effective market linkages	Strong linkage with input and service providers, diversified buyer base

Equitable access to services

Abesigana DFCS provides a diverse range of services with equal access for actively supplying members. This has resulted in a "one stop services hub" at cooperative level: offering a wide range of services such as extension services (skills and knowledge transfer); input supply; credit and loan facilities; access to affordable energy; machinery rental services. In addition, social services like tent and chair rentals for funerals are offered free of cost. But also, the 'services' for specific target groups such as engaging women in yoghurt making and offering collection services through youth employment in milk transportation are part of the "one stop services hub" concept, all activities being managed by the cooperative. Such a total package allows for addressing the diversified needs of members.



Abesigana DFCS established a SACCO in 2012 to ease member bankability providing credit and related services. The SACCOS is governed by an independent board, separated from the cooperative. Around 90% of the cooperative members are also a member of the SACCO. A compulsory savings of 50 Uganda shillings for every litre of milk delivered was instituted and the savings were returned after a year. Members also receive dividends at the end of each accounting year. Thus, farmers have been able to develop a saving culture and build a capital base to access the subsidised products and services of for example SNV. There is need for growth of the financial portfolio as farmers continue to face challenges with improving their farming systems due to financial constraints.

Members appreciate the services provided by the cooperative, because they are cheaper and readily available compared to those from other providers. Advance payments, drugs and loans are the most appreciated but Abesigana DFCS is unable to meet the full demand due to limited financial capital. Services can further be improved by providing milking cans, artificial insemination, extensive training from extension officers and milking parlour.

With the support of TIDE, Abesigana has been able to access a wider network of industry players which facilitates their operations. The cooperative has a strong linkage with agro-input providers for in-house and external services. Typically, the cooperative negotiated better conditions for their members in terms of prices and credit facilities. One example is that farmers are able to obtain more sustainable energy at affordable prices to man water extension and distribution on the farm.

Abesigana has one extension officer employed by the cooperative since 2018. He serves on average 40 farmers per month, of which the lead or model farmers receive most attention. Once a month, a group training is organised. About 70% of members participate in field days or trainings organized by the cooperative or model farmers. Only a limited number of farmers have attended the PDTF due to financial constraints (only 50% subsidy for women).

This total services package is unique and probably the secret behind the successful performance of Abesigana. As a cooperative with loyal members, the cooperative managed to increase and stabilize the milk deliveries from the members, which is essential for the business case of the cooperative.

Chain wide collaboration

The cooperative has been successful in engaging shareholders by organising the highest number of Annual General Meetings (AGM) for decision making, among the visited cooperatives. Also, a number of different communication channels are used (suggestion box, text messages, phone calls and cooperative notice board) to collect suggestions and inform members. The MoUs with service providers are a good example of formalising cooperation within the value chain.



Fair and transparent governance

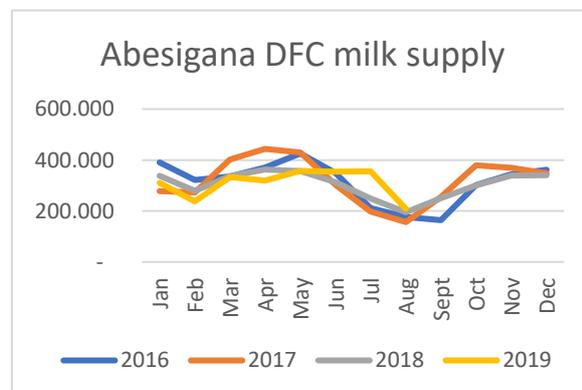
In collaboration with processor Pearl, and support from TIDE, QBMPS was successfully piloted. The milk deliveries from all farmers were tested at the cooperative on certain quality parameters. The result was an average of 6,000L (~55% of the total milk supply) of good quality milk per month. Farmers with milk quality issues were trained and advised on how to improve their production. The cooperative earned a bonus payment for the quality milk of UGX 6,200,000 (equivalent to 1,500 Euros), in just four months. This price premium was not paid to farmers but invested in the cooperatives' dairy operations.

Prior to the pilot, farmers and operators at the cooperatives were trained on quality milk production and handling. The cooperative was equipped with a milk analyser and received training on how to properly test milk quality. The milk quality standards that qualify for bonus payments are set. Through milk assistants, Abesigana monitored farmers' production and started milk collection at the farm level to ensure timely delivery.

Effective market linkages

As Abesigana pays a relatively high milk price to members, the supply is more stable and gradually increasing due to better productivity.

The cooperative sells the milk to various buyers: including processors, such as Pearl, Amos, Lakeside dairy Ltd, schools and the local market being composed of window sales at the cooperative and at the cooperative selling point in Mbarara town. Though these relations are relatively stable, milk supply quantities are subject to price and desired quality.



Support interventions

TIDE, involving SNV and Agriterro, have provided broad support to the cooperative. Agriterro supporting inclusive cooperative development through governance and female leadership trainings, whereas SNV takes care of technical support to farmers with a main focus on improved productivity. Bles Dairies played a leading role in the QBMPS.

Some specific examples are the trainings from Agriterria on financial management and internal capitalisation, that helped the cooperative to acquire a tractor to offer services to members. Through SNV, farmers had access to subsidised products and services such as paddocking and silage making. Also, they hired a cooperative extension support officer to help improve farm hygiene and increase the productivity of animals. Through the 50% subsidy for digitization, the cooperative acquired a computer to record voluminous financial transactions. TIDE contributed to improving the relation between the farmer, the cooperative and the market. The holistic TIDE approach, of building the capacity of various value chain stakeholders, makes the interventions more successful.



Conclusion

Abesigana DFCS is a good example of a farmer led dairy cooperative integrating inclusive practices within the business model. The clear business focus, while involving specific target groups and providing a wide range of services at an affordable price is a successful approach. Good governance from a diversified board, strong management performance and cooperation with market stakeholders are key to this success. Abesigana is classified as the strongest cooperative of the TIDE project (October 2019).

The best inclusive business practices include: investments in women and youth inclusion; “one stop services hub” for members to access inputs and extension and credit services; creation of a guaranteed market channel for members and negotiation of better milk prices from various buyers; support to members on quality improvements to increase profitability. The stable milk delivery volumes and increasing membership numbers are two indicators of the achieved member loyalty and improved business performance through inclusive business practices.

Name	Kyakabunga Dairy Farmers' Cooperative Society Limited
Location	Uganda, Kiruhura district

Organization profile

Year of establishment	June 2014 (started with around 40 members)
# of members	261 of which 40 women (15%) and 96 youth (29%)
# of daily milk suppliers	251 (peak season)
Daily milk collection amount (litre)	7,000-8,000 L
IB Model	PO-led

Introduction:

Kyakabunga DFCS Limited is a cooperative with a stable or even growing membership base. The DFCS has 3 coolers with a total capacity of 10,000 liters. The cooperative actively collects milk, bulks, chills and markets daily.

Kyakabunga DFCS Limited gives attention to women and youth inclusivity along the dairy value chain. Value addition is done by a women group through small scale yoghurt production. The cooperative collaborates with diverse input and service providers, processors as well as partners since 2014.

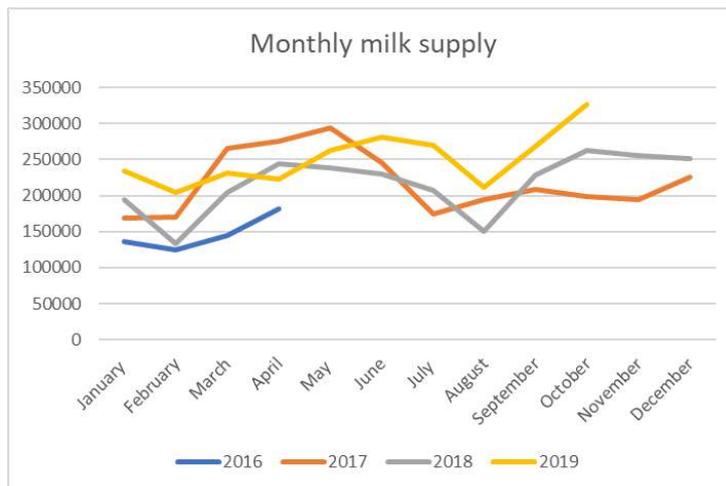


An extension officer is employed since 2018 to support the members in better dairy farming practises, aiming for higher productivity and better quality. Kyakabunga DFCS Limited also sells milk and yogurt to local consumers to improve local milk consumption and build a relationship with the community.

Organizational inclusiveness	
Smallholders	154
Women	40 members, 2 women on the board of 9 members, 2 in management and 2 lead farmers
Youth	96 members, 1 youth as secretary, support to youth and youth group.
<p>Kyakabunga DFCS Limited shows examples of how inclusiveness can be promoted. The PO addressed the needs of women and youth by offering extra programmes and opportunities to them. This has resulted in more inclusion of women and youth in the leadership of the cooperative and income generation for them.</p> <p>Youth mobilisation was done by technical trainings of SNV and support from Heifer International in relation to an already obtained chaff cutter. The youth group initially included 29 members (8 women) and was strongly encouraged by the chairman. However, when the chairman passed away, the group became less active and diminished to 15 youth. The service activities are related to fodder production such as silage making, paddocking and pastures.</p> <p>In addition, youth could access special loan schemes to purchase motorcycles or cows. Motorbikes are used in transporting milk and for commercial purposes (boda-boda), serving as an additional income source. The loan scheme for youth to purchase cows was on the condition that they will supply the milk to the cooperative afterwards.</p>	

Inclusive business practices	
Access to services	Provision of highly appreciated services with equitable access
Chain wide collaboration	Partners aiding good service delivery
Fair and transparent governance	Quality Based Milk Payment System (QBMPS)
Inclusive innovation	Women group value addition activities
<p>Access to services Active members have equitable access to in-house services provided they continuously supply milk to the cooperative. Aside from services common to most cooperatives such as input supply services, Kyakabunga facilitates access to fuel, long-term loans, tractor services, social support, extension and veterinary services. The provision of diverse services has helped farmers increase production and to meet household needs. Scaling of service provision to include rental of forage chopper, services of animal nutritionist and crop extension officer could further enhance farmer productivity. Since 2018 an extension officer with a veterinary background is employed with support of SNV & Agriterria.</p> <p>Chain wide collaboration Kyakabunga has established linkages with various input and service providers to access needed products and services. This has enabled members to access long term loans from SACCO at low interest rate, fuel from Don Petrol and solar power from Solar Now. Furthermore, strong collaboration with Pearl Dairy Limited, SNV and other partners enabled the implementation of QBMPS, though there are challenges. Since farmers need financing for milking parlour, spray races, chaff cutter, paddocking and fencing among others, strengthening the linkage with financial service providers could potentially help members access credit facilities to implement these farm investments for enhanced cow productivity.</p> <p>Fair and transparent governance Kyakabunga has piloted and implemented QBMPS. This was successful in terms of improving the milk quality: farmers have adopted improved dairy production and management systems to supply quality milk that meets</p>	

approved quality standards. This increased the volume and quality of milk produced by farmers as shown in the graph. However, a major problem that remains is that farmers are yet to reap the full benefits that come with delivering quality milk to the cooperative. The major buyer currently pays for volume but not for quality. This results in other market linkages, for instance the cooperative sells part of the quality milk to a local buyer (from Kampala) who pays a premium for the quality and does direct payment. This shows QBMPS



has potential if stable markets that reward quality milk and can absorb the supply volumes could be found. If the cooperative will get the premium for quality milk, and also ensures that part of the premium goes to the producer, this will enhance the cooperative business and stimulate farmers to continue delivering quality milk to the cooperative.

Inclusive Innovation

There is a 20-member women group producing probiotic yoghurt (Yoba) on a small-scale of 100 litres/week for the local market. The group was supported financially to acquire processing tools by SNV and received training and coaching from YOBA and SNV. The group buys the milk from the cooperative at the market price and rent a place where processing and storage takes place. The women group is allowed to use the brand name of the cooperative and the cooperative supports with marketing by advertising and patronising their yoghurt for events. The yoghurt business generates a small daily profit for the women. In terms of income it may not be very big yet, but it is a good to step to get more women on board in the cooperative. The women have access to loans and advances from the cooperative to purchase cows for milk production. Moreover, this inclusive innovation supports the production of a nutritious product for the local community.

Support interventions (indicated as being the most impact full)

Time frame (start date)	Supporting organisation	Topic	Activity / Training	Target group
2016	Agriterra	Cooperative governance	Training on how to lead and operate cooperate	Cooperative
2016	Agriterra	Leadership	Leadership skills	Cooperative
2016	SNV-TIDE	PDTF	4-day practical training at a practical training dairy farm	Farmers
2016	SNV-TIDE	Extension services	75% subsidy on salary	Extension officer
2018	SNV-TIDE	1 Motorcycle	Support with purchase (cooperative pays running cost)	Extension officer
2018	SNV-TIDE	QBMPS	Promoting quality milk production by rewarding with bonus/higher price.	Cooperative/ farmers

Kyakabunga DFCS received cooperative development trainings and technical trainings plus inputs for innovation. The support on leadership and governance has helped in restructuring the management, such as the inclusion of youth and women. There is a dedicated female business advisor from Agriterra who communicates with the cooperative and supports on gender issues.

SNV worked with the cooperative and its members, extending a range of subsidised services. The subsidies can be used by a limited number of members. Depending upon the product offered, it attracts specific target groups. For example, the PDTF training is more used by larger farmers as the small holders may not be able to pay even the subsidised rate.

Also, the introduction of QPMPS was an important intervention for milk productivity and quality improvement.

Lead farm extension approach	
# of Lead farmers	8
% female	2 women (25%)
% youth	1 youth (12.5%)

Lead farmers are selected based on the adoption of best practices to use their farms for demonstration. They receive support from various institutions to establish good model farms but are not actively promoting best practises to other farmers. In that sense, they are model farmers without an active promotional or extension role. Since 2018 an extension officer is employed, subsidised by TIDE. He serves around 40 farmers per month and organises a group training once per month. The group training is based on farmers residing in the same place but not necessarily identified ad specific farmer groups. Prime target group are the early adaptors and the extension may therefore not reach all farmers. It seems that medium and large holders are targeted more. According to the manager and his team the EO officer is playing a crucial role in promoting the commitment of the farmers to the cooperative through farm capacity building and trainings. The cooperative is willing to continue the EO if subsidy stops.



Conclusion

Kyakabunga is actively pursuing youth and women inclusion by offering support in income generating activities (capacity building and financial support), but also supporting them in empowerment and leadership. Focused and specific activities addressing their needs enhances a more inclusive approach and attracts more women and youth to become (active) members of the cooperative. For youth, this is not yet reflected into leadership positions.

The QBMPs pilot, hand in hand with improved services provision, has attracted new members and resulted in increased milk supply to the cooperative. The QBMPs pilot has improved milk quality; however, processors are yet to reward farmers for quality. The strong linkage with key actors is creating an enabling environment to serve members with important services which strengthens member loyalty. The cooperative acknowledges the positive return on investment of these efforts, including the facilitation of extension support, as the production improvements result in higher profits at cooperative level.

Kenya

Name	Numberes Farmers' Cooperative Society Ltd
Location	Kenya, Baringo county, Koibatek district

Organization profile	
Year established	1982
# of members	4,000 members of which 50% is female and 60% is youth
# of daily milk suppliers	2,800
Daily milk collection amount (litre)	15,000
IB Model	PO + value addition-led
<p>Introduction</p> <p>Numberes has around 4,000 member farmers from close by regions, of which 2,800 are active daily milk suppliers. On average, Numberes collects around 15,000 litres per day which its bulks and chills before marketing. Most of the milk is sold to processor Daima. A small proportion is sold directly to local consumers and retailers, through milk ATMs and milk bars. Numberes dairy cooperative has a small processing facility on site to pasteurize milk and produce yoghurt but current operations only include very small quantities. The cooperative performs well because of strong management, an extensive local milk collection network and a wide range of service delivery.</p> <div style="text-align: right;">  </div> <p>The cooperative has a gender mixed board since 2014 including two women and a male chairman. Also, there are three youths in the board that are part of the youth council. The cooperative manager is female.</p>	

Organizational inclusiveness	
Farm size	90% of the members are smallholders
Women	50% of the members are women, two women in the board of directors, one female manager, female lead farmers, reward for top three female farmers, specific trainings for women involvement
Youth	60% of the members are youth, youth council established with three members in the board of directors, youth extension officers
<p>Numberes promotes member equality with specific attention for the inclusion of women and youth. This is reflected in the cooperation among the members of the board, where the youth and women do not feel suppressed by the male chairman and are able to express their opinions and ideas. The women and youth initiatives attracted new members of these groups. For instance, the cooperative recently introduced the concept of allocating afternoon milk supplies to the wife, which allows them to receive payments and manage the income. Another example is the establishment of the youth council in 2015. Currently, there are 81 youths' part of the council that is represented through nine board members. The purpose of the youth council is to strengthen the position of young farmers by promoting P2P learning and representing their interests within the cooperative. Numberes has included youth in several interventions: employment creation by hiring them as extension officers or service providers in silage making, training on sustainable agriculture and governance and participation in exchange visits.</p>	

Inclusive business practices	
Access to services	Diverse range of services
Chain wide collaboration	Several partnerships
Effective market linkages	Multiple buyers
Inclusive innovation	Processing facility

Access to services:

Mumberes focuses on providing a wide range of services to members through two input shops. The offered services are decided based on farmer demand, soil scanning results and research developments. Some of the services are:

- Inputs on checkoff: fodder
- Extension services: extension officers and demonstration field
- Veterinary service: artificial insemination
- Rental services: chaff cutter
- Milk collection: transporters
- Access to loans and social support: school fees

The milk collection services enabled the cooperative to establish a strong local network and presence to attract more milk supplies and reduce side selling. Through the improved accessibility of services, mainly inputs and extension services, members introduced new practices related to silage making, semi/zero-grazing units, proper farm structures and better animal health. Almost all farmers make use of the services that are available to members on checkoff. Furthermore, a partnership with Skyline SACCO improved the accessibility of loans to invest in their farm. As a result, the quality and quantity of most milk producers improved. For example, the farmers visited declare to have doubled the milk production per cow per day.

Despite the fact that sufficient stock and on-time delivery are the main challenges, the respondents in general perceive the services as good, useful and available when needed. The establishment of stable relationships with input providers and formalization of agreements through contracts for three months contributed to this. Management skills, working capital, internal controls, IT innovations and customer care are the key ingredients to further improve inclusive service delivery. Especially, as the services attract new members, the future sustainability and expansion of service delivery demands timely intervention and business development.

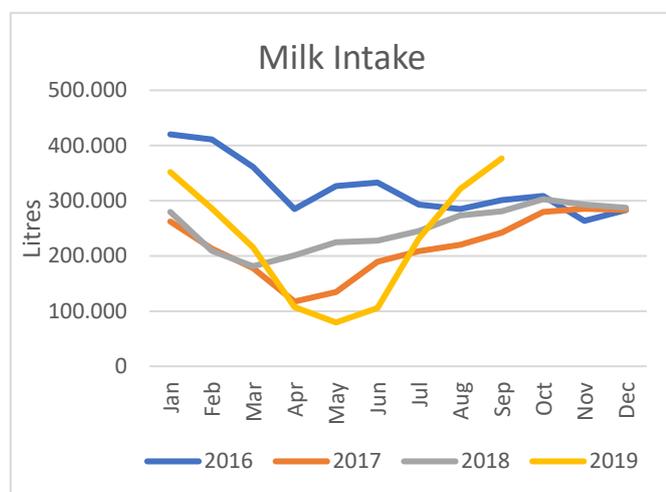
Chain wide collaboration

Mumberes has partnerships with several different organizations. For instance, the cooperative works together with BAMSCOS, Skyline SACCO, input suppliers (i.e. Twiga chemicals, Cooper K-brands Ltd, Kenya seeds) and the county government.

Effective market linkages:

Mumberes works with processors: KCC, Daima and Highland Creameries. These market linkages are based on contracts and give Mumberes the opportunity to provide member farmers with a rather stable milk price and guaranteed market. The contracts with processors are set up every month and a pre-set amount of Kenyan Shilling per litre is determined. This to secure the sales of the cooperative as well as the income of the farmers. International market dynamics and drought can cause fluctuations in the milk price. Currently, the relationships are relatively stable.

On the supply side, the data indicates that it remains difficult for Mumberes to stabilize and increase milk intake volumes (see graph).



Inclusive Innovation

Mumberes invested in a small processing plant with the objective to earn a more stable income and become less dependent on the highly fluctuating raw milk prices. The cooperative purchased equipment worth 1.5 million KES with their own capital and a bank loan. Currently, the plant produces a small amount (around 500 litres per day) of yoghurt which is sold locally. The income generated from this activity just covers the costs of operations. As BAMSCOS, the union of which Mumberes is a member, is setting up a processing facility the cooperative will not continue to invest in value addition. The cooperative can benefit from higher prices by delivering their raw milk to BAMSCOS and share in the processing profits of the union.

Support interventions

Time frame (start date)	Supporting organization	Topic	Activity / Training	Target group
2013	SNV	Milk production	Training on increase milk production.	Smallholders
2013	SNV	Farm management	Animal health, fodder production	Smallholders
2016	Agriterra	Inclusiveness	Training for the youth council, sustainable agriculture	youth
2019	Agriterra	Inclusiveness	Female leadership training	women

Mumberes has received support from both SNV and Agriterra. The SNV trainings on milk production and farm management for smallholders contributed to improved production, milk quality and animal health practices. The previously mentioned results with respect to women and youth involvement can be partly attributed to the trainings on inclusiveness and other interventions of Agriterra. For instance, the establishment of the youth council was a result of an exchange visit to the Netherlands by the board of Mumberes.

Lead farmer approach

# of Lead farmers	6 lead farmers
% female	50%
# of farmers per group	20-30

Mumberes only has a couple of lead farmers at the moment that were assigned during the SNV intervention. To become a lead farmer, a certain level of size, quality, innovation etc. is required. The lead farmers have to be frontrunners in the field of dairy development and willing to teach neighbouring farmers as well as having a strong connection with the cooperative. The lead farmers are supported by receiving access to specific trainings, such as on fodder and record keeping, exchange visits and participation in agricultural events. Lead farmers are expected to train other farmers and perform farm visits. Lead farmers have not yet been in place for a long time at Mumberes and specific responsibilities or targets are not defined. The question is how the lead farmer approach relates to the tasks of the extension officers and can be scaled for significant spill over effects.

Conclusion

Mumberes performs well on women and youth inclusion and delivering accessible services. The internal organization and inclusive values at the cooperative level are relatively strong, resulting in promising initiatives that lead to inclusiveness. The main challenge of the cooperative is to improve member productivity and loyalty to stabilize and increase milk intake volumes. The profitability of different activities in the business model need to be reviewed, such as the processing facility, to define a clear strategy and efficiently allocate resources. Especially, in light of the different competitive advantages at union and cooperative level.

Name	Naari Dairy Farmers Co-operative Society Ltd
Location	Kenya, Meru County

Organization profile

Year established	2010
# of members	4,000 Members of which 40% women and 60% youth
# of daily milk suppliers	1,800
Milk collection amount (litre)	6,800 per day
IB Model	PO-led

Introduction:

Naari Dairy cooperative is a young dairy cooperative registered as DFCS. The cooperative is located in the middle of Kenya, close to the city Meru. There are several youth and women in the board headed by a chairman. The manager of the cooperative is a woman. Since the start, the cooperative invested in expanding their operations of collecting and chilling milk. Most of the money was used for acquiring the equipment for these activities (cooler, tanker) and service provision to members through the establishment of an in-house vet shop and hiring a doctor and extension officer.



Organizational inclusiveness

Farm size	95% of the members are smallholder farmers, the other 5% are medium sized farmers.
Women	40% of the board members and employees of the cooperative are women, including the manager.
Youth	60% of the members are youth. 40% of the cooperative employees and board members are youth.

The cooperative has a very equal representation and participation of men, women and youth at different levels: membership, management and governance. Naari received the second-best gender equality price for dairy cooperatives in the region in 2016. In general, women and youth feel included and respected and more women farmers have joined the cooperative.



Some good examples to increase the involvement and inclusions of the target groups include: i) specific women and youth trainings, ii) loan priority for women and youth through revolving NGO fund, iii) technical and financial support for members supplying <5L per day, iv) access to machinery for youth groups to provide silage making services. With respect to the third point, the cooperative investigated the main reason for the low milk supply of these members, which appeared to be the low quality of the cow breed. As a solution, a loan provision facility and technical support during the purchasing process of a stronger breed with high milk potential were introduced (see access to services).

Inclusive business practices

Access to services	Wide range of services: agrovet shop, doctor, artificial insemination, local milk bar, loans, silage making services by youths, extension services.
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Access to services:

A wide range of services is provided by the cooperative which all members that actively supply milk can access on check off. There is a vet shop with agro inputs such as feed and supplements and consumer products. Naari is one of the few cooperatives that employs a vet doctor and extension officer as there wasn't one assigned to them by the union.

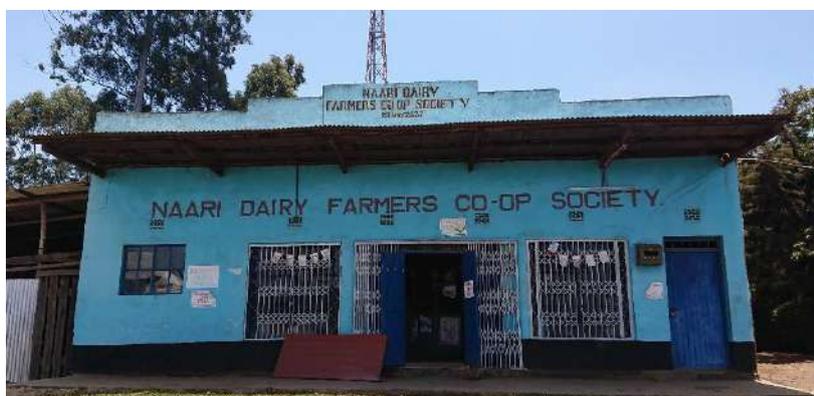


The cooperative considers capacity building and knowledge improvements crucial interventions for production and income improvement. With the help of an NGO (Farmers helping farmers) the cooperative is able to offer free, mandatory trainings three times a month. These are provided to different groups of around 80 members at the collection centres and a financial penalty is applied in case of absence. 90% of the active members attend the trainings. Also, the extension officer and vet doctor can be assigned for training purposes. The cooperative provided specific training for the skill development of women and youth.

The cooperative has three youth groups that were trained on silage making. With 50% financial support of KMDP, Naari invested in the purchase of three silage making machines. This enables the youth group to offer these services to members by renting the machines for a small percentage of the earnings from the cooperative. In this way, the youth, farmers and cooperative benefit.

Access to credit is one of the main challenges of members. Therefore, the cooperative supports by providing advance payments in the middle of the month as well as school fees for children. However, the available capital is limited and difficult to attract externally as the cooperative has no collateral or land title. In order to ensure there is enough stock of inputs, the cooperative established strong relationships with suppliers that are in some cases willing to deliver on credit.

Naari established a SACCO in an attempt to address the finance challenge of members by offering loans. Currently, the back-office license allows them to engage in loans but not in savings. In order to raise capital for the loans, the SACCO is selling shares. Members are able to access a loan worth three times the amount of their shares for an interest rate of 12%. Without a front office license to offer saving services or access to external funding the amount for loan provision remains very limited.

**Support interventions**

Time frame (start date)	Supporting organization	Topic	Activity / Training	Target group
2014	SNV	Training and extension	Field trainings, silage making, zero-grazing. Animal health	Smallholders
2104	SNV	Training and extension	Leadership, internal cooperative governance	Cooperative board and management
2014	SNV	Silage machines	Provision of silage machines	Smallholders

SNV regularly provided technical trainings to Naari and monitored the impact to provide appropriate follow up trainings and material. SNV trained cooperative staff, such as the extension officer, on technical knowledge to properly deliver trainings to smallholders on production, livelihood and animal health improvements. A significant amount of the farmers switched to silage making and zero-grazing after trainings from SNV.

The impact of SNV's interventions were especially visible with respect to creating awareness about women inclusion and leadership and the provision of silage making training and equipment support to establish the youth groups.

Lead farmer approach

# of Lead farmers	24 lead farmers
% female	60%
% youth	20%
# of farmers per group	15-25

Farmers are able to become a lead farmer, when they have a significant production, are innovative, and connected to the cooperative. The trainings are given every 2-3 months for around 15-25 smallholder farmers. Trainings differentiate from silage making, good breeds and animal health to milking hygiene and quality control. The benefits are a better connection among neighbouring farmers, and the ability to share and receive knowledge from other farmers. There is a regular information exchange between farmers and the cooperative around two times per month. Lead farmers could be better supported with specific innovative trainings for lead farmers.

Conclusion

The cooperative is young but showing good progress and a strong vision to improve and expand their business. The needs of the farmers are the driving force for scaling the cooperative activities and improve the services according to the demand of members. Also, the progressive attitude towards women and youth inclusion is remarkable.

Name	Meru Central Dairy Farmers Co-operative Union Ltd
Location	Kenya, Meru county

Organization profile	
Year established	1979
# of members (% female & % youth)	80.000 members (43% female)
# of daily milk suppliers	5400 individuals through 53 registered CBEs
Daily milk collection amount (litre)	220.000 daily
IB Model	Processor-led
<p>Introduction: Meru union is one of the biggest dairy processors in Kenya with currently 53 member cooperatives. All farmers of a member cooperative are obliged to become a member of the union. The milk supply is quite stable because on average around 90% of the milk volume from the cooperatives is sold to the union. The union also sources milk from bigger private farms and schools. The current strategy is to continue expanding the supplier base instead of increasing the milk volume from the existing member cooperatives. This is perhaps driven by the challenge to increase milk productivity and the fear of competition from private milk processors contracting suppliers. The cooperatives experience three main benefits from delivering milk to the union: i) better price offer compared to other processors, ii) confidence and certainty about payments and iii) profit share through dividends. Prices are determined on a monthly basis and shared with suppliers but not contractually. In practice these prices are stable and only change once every six months.</p>	
	

Organizational inclusiveness	
Small holders	60 -70% of the members are smallholder farmers
Women	43% of the members are women. 40% of the staff at the processing facility are women. The board of nine people includes three women (33%). There are 12 women among the 53 delegates.
Youth	Around 76% of the staff are youth
<p>Meru union has been focusing on the inclusion of women and youth for the last couple of years. More women are involved, also in higher positions such as the production manager. Women are important producers contributing high milk volumes and accounting for a large percentage of the members. However, the most powerful functions are still taken by men. The inclusion of youth has been challenging as well, as most of them are not interested to engage in dairy farming if there is not a strong business case.</p>	
	

Inclusive business practices	
Access to services	AI, vet doctor, 31 extension officers employed and assigned to selected member cooperatives, field days, milk collection, bookkeeping and auditing and management support
Chain wide collaboration	link to private service providers
Inclusive innovation	Processing

Inclusive innovation

The processing activity of Meru is a good example of an inclusive innovation. The value addition creates the opportunity to target a wider market segment of higher value products. The higher profit margin and price stability of these products enables the union to offer a better price to member cooperatives and their farmers. In principle, the profits are also shared with cooperatives and farmers. Therefore, Meru union offers an alternative and better market linkage to cooperatives compared to private competitors, which is by design more inclusive.



Support interventions

SNV has worked with Meru union for a long time. SNV tried to strengthen the connection between Meru and the member cooperatives. The involvement and service provision of the union strengthened for instance by promoting the employment of extension workers that were assigned to the cooperatives. Through the technical trainings of SNV, including the support to extension officers, farmers received trainings on for example fodder, disease management, cow shelters, calf management and milking timings to improve production. Extension officers are expected to report monthly to the Union. However, monitoring and evaluation is limited and complicated due to the fact that Meru employs them, but they are stationed at a cooperative. Also, there are challenges with the high turnover and continuous capacity building of the extension officers.

Agriterra has helped Meru union with the marketing of their products, through this Meru union has been able to sell more products for a better price.

Conclusion

Meru union is a good example of starting a processing facility as inclusive innovation to create better prices and market alternatives for farmers and their cooperatives.



Netherlands East Africa Dairy Partnership

The Netherlands East African Dairy Partnership (NEADAP) offers a platform for exchange of knowledge and experience to tackle current challenges and leverage further development in East African dairy. NEADAP core partners are Agriterra, SNV, Solidaridad and Wageningen University & Research (WUR), each with their own knowledge, expertise, networks, local partners and projects in East Africa.
